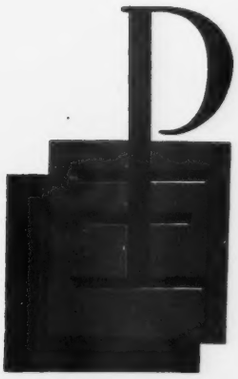
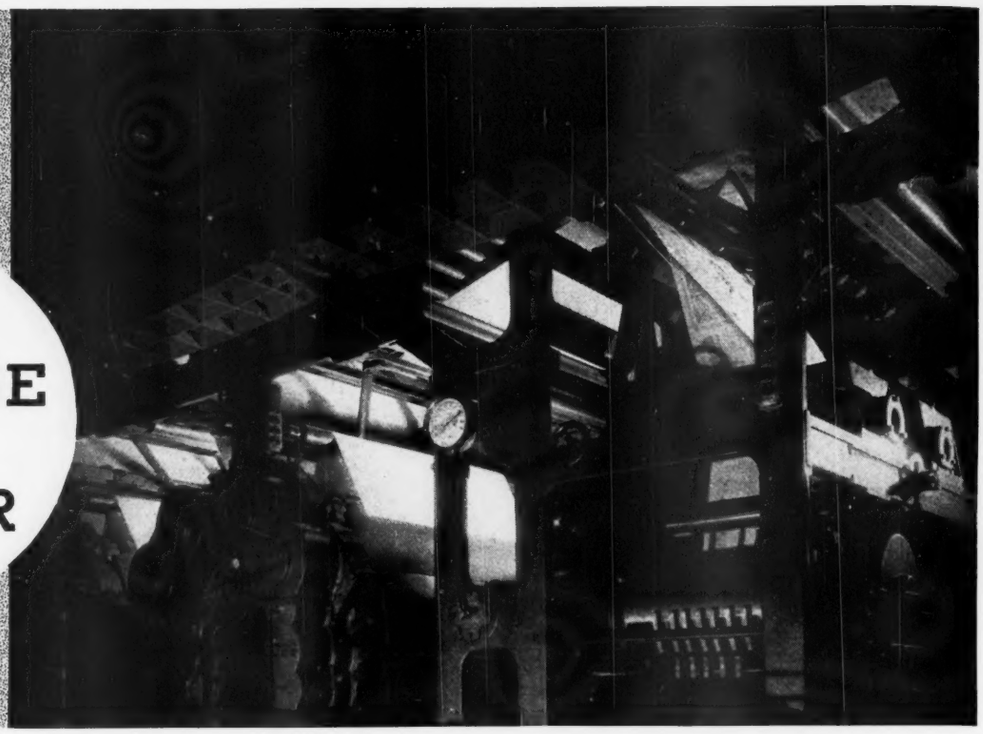


PRINTING EQUIPMENT ENGINEER

APRIL • 1935

A TECHNICAL PUBLICATION FOR MECHANICAL EXECUTIVES RESPONSIBLE FOR PRINTING PRODUCTION, EQUIPMENT AND SUPPLIES IN THE COMMERCIAL, MAGAZINE, PRIVATE PLANT AND DAILY NEWSPAPER FIELDS

NO CHANGE IN COLOR



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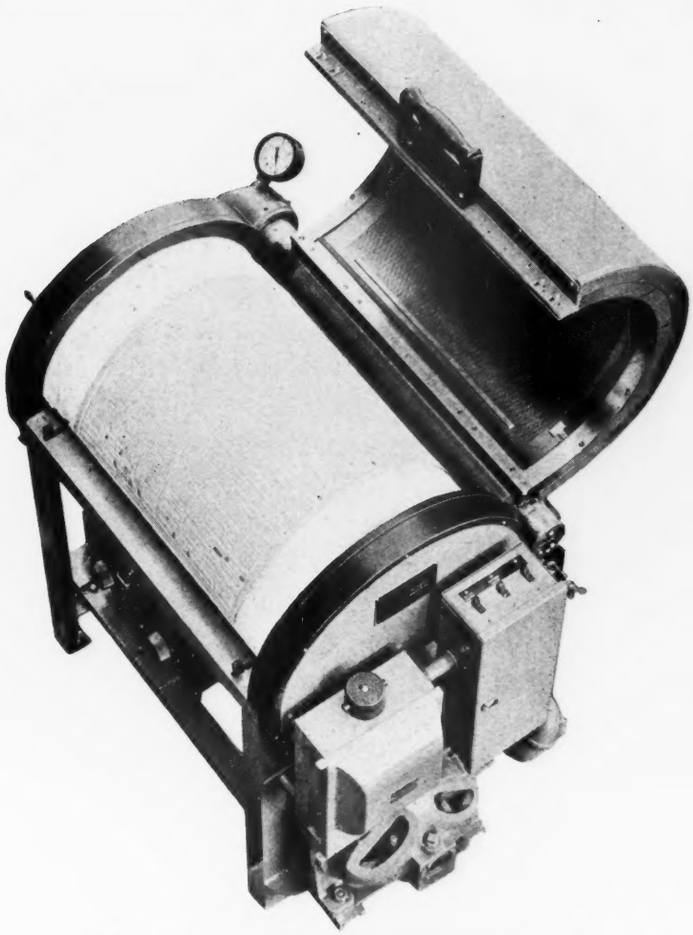

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APRIL 1935
VOLUME 50 Number 1

Printing EQUIPMENT Engineer

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Published by Don Will
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A Technical Publication for Mechanical Executives Responsible for Printing Production, Equipment and Supplies in the Commercial, Magazine, Private Plant and Daily Newspaper Fields.

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The key men in your organization will appreciate looking over the pages of this magazine. Perhaps one of them will be able to put some particular technical idea to good use in your plant.

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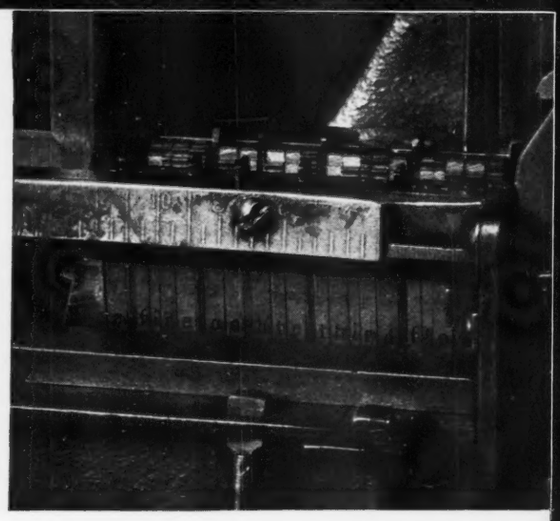

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Air Needed

By Printer to Control Output

By WILLIAM JACK ACKER*

IT SEEMS that America is becoming "air conditioning minded." The idea is spreading more and more to use in industry and in the home. Whole skyscapers are being equipped to keep hosts of occupants comfortable regardless of outside weather conditions.

Air conditioning means more than putting a fan in the heating system or a pan of water behind the radiator. A complete system involves six different processes. The basic data of air conditioning was worked out about thirty years ago. It is an exact science. The technique has been in use the past four years.

The function of air conditioning is to control the cleanliness, humidity and temperature of air in enclosed areas. This is essential for human comfort and health, and the preservation of goods in a normal state. Proper atmospheric conditions in industry affect the production of a lot of machinery and of all the workers.

The moisture saturation point of the air is always the same for any given temperature. Cold air requires less moisture to reach saturation than does heated air. From these facts it has been established that the best relative humidity is between 40 and 60% with a temperature between 66 and 72 deg. F.

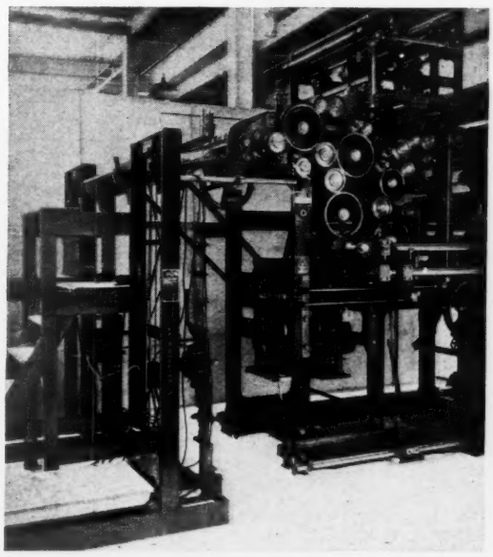
Since the cold outside air in winter contains a limited amount of humidity, it is necessary to introduce moisture to attain the correct relative humidity when that air is heated indoors. Particles of dust and soot, which contaminate the atmosphere, especially in cities and industrial districts and inside some manufacturing plants, can be removed by washing and filtering the air.

Printing is an industrial process especially susceptible to humidity and temperature. For years printers have used make-shift methods of introducing moisture into the air with pans of water, wicks, etc. They've employed tinsel, grounded in water, to take the static out of paper in the process of printing. They've been annoyed with drafts of cold air. Open gas flames, metal-melting pots and powerful lights affect the atmosphere in printing plants.

Ink thins or thickens with heat or cold, and either variation from normal causes trouble for the pressman. Cold contracts paper fibres. If printed in this condition excessive ink absorption results. Good printing is obtained by the proper absorption of ink by the paper. Even a 2% variation in the humidity of paper causes trouble for the printer.

*Highland Park, Illinois.

Continued on page 34



Stackers

Aid Handling of Sheets

By FRANCES A. WESTBROOK*

The illustration shows two electrically operated stackers at the discharge end of a printing press at the *Meisel Press*, Boston, Mass. There is a stacker on each side of the platform where the pressman stands to take off sheets as they come out. The platform of the stacker is kept at an elevation which is convenient for the pressman to lay the sheets. As the pile grows, the platform is lowered. When a stacker is filled it is lowered and the pile of sheets, which are on a skid platform are taken away by means of a lift truck. Meanwhile the pressman uses the other stacker. Handling is thus reduced to a minimum, and there is no waste of time. Foot control with the station in front of the operator is provided for raising and lowering the platform of the stacker.

*Mechanical Engineer, Center Conway, New Hampshire.

"The persistent urge to perpetuate Chinese typography has survived the castoff depravities of yesterday's modernism," says Harry L. Gage in "The Technique of Display," in The Linotype News. *"But," he continues, "if the will of outraged readers prevails, those type users who will go Chinese surely may spend their entire hereafter chasing letters up and down the slippery walls of the bottomless pit. 'Type,' said the foreman, 'was made to read.'"*

FOR TRANSFORMING
From 8¾ Set to

Keyboard Ems	5	5¼	5½	5¾	Keyboard Ems	6	6¼	6½	6¾	Keyboard Ems	7	7¼	7½	7¾	Keyboard Ems	8	8¼	8½	8¾
½	.16	.15	.14	.14	½	.13	.13	.12	.12	½	.11	.11	.10	.10	½	.10	.10	.09	.....
1	1.13	1.12	1.11	1.09	1	1.08	1.07	1.06	1.05	1	1.04	1.04	1.03	1.02	1	1.02	1.01	1.01	.....
1½	2.11	2.09	2.07	2.05	1½	2.03	2.02	2.00	1.17	1½	1.16	1.15	1.13	1.12	1½	1.12	1.11	1.10	.....
2	3.09	3.06	3.03	3.01	2	2.16	2.14	2.12	2.11	2	2.09	2.07	2.06	2.05	2	2.03	2.02	2.01	.....
2½	4.07	4.03	4.00	3.14	2½	3.12	3.09	3.07	3.04	2½	3.02	3.00	2.16	2.15	2½	2.13	2.12	2.10	.....
3	5.04	5.00	4.14	4.10	3	4.07	4.04	4.01	3.16	3	3.13	3.11	3.09	3.07	3	3.05	3.03	3.02	.....
3½	6.02	5.15	5.10	5.06	3½	5.02	4.16	4.13	4.10	3½	4.07	4.04	4.01	3.17	3½	3.15	3.13	3.11	.....
4	7.00	6.12	6.07	6.02	4	5.15	5.11	5.07	5.03	4	5.00	4.15	4.12	4.09	4	4.07	4.04	4.02	.....
4½	7.16	7.09	7.03	6.15	4½	6.10	6.05	6.01	5.15	4½	5.11	5.08	5.04	5.01	4½	4.17	4.14	4.11	.....
5	8.13	8.06	7.17	7.11	5	7.05	7.00	6.13	6.09	5	6.04	6.01	5.15	5.12	5	5.08	5.05	5.03	.....
5½	9.11	9.03	8.14	8.07	5½	8.00	7.13	7.07	7.02	5½	6.16	6.11	6.07	6.04	5½	6.00	5.15	5.12	.....
6	10.09	10.00	9.10	9.02	6	8.13	8.07	8.01	7.14	6	7.09	7.04	7.00	6.14	6	6.10	6.07	6.03	.....
6½	11.07	10.15	10.06	9.16	6½	9.09	9.02	8.14	8.08	6½	8.02	7.15	7.10	7.06	6½	7.02	6.16	6.12	.....
7	12.04	11.12	11.02	10.12	7	10.04	9.14	9.08	9.01	7	8.13	8.08	8.03	7.16	7	7.12	7.08	7.04	.....
7½	13.02	12.09	11.17	11.07	7½	10.17	10.09	10.02	9.13	7½	9.07	9.01	8.13	8.08	7½	8.04	7.17	7.13	.....
8	14.00	13.06	12.13	12.03	8	11.12	11.04	10.14	10.07	8	10.00	9.12	9.06	9.01	8	8.13	8.09	8.04	.....
8½	14.16	14.03	13.09	12.17	8½	12.07	11.16	11.08	11.00	8½	10.11	10.05	9.16	9.11	8½	9.05	9.00	8.12	.....
9	15.13	15.00	14.06	13.13	9	13.02	12.02	11.14	11.12	9	11.04	10.15	10.09	10.03	9	9.06	9.01	9.05	.....
9½			15.02			13.15													

Fig. 1.—Section of table reproduced from "Transforming and Layout Tables," compiled and published by James C. McIntosh. The book contains tables for converting any set size type from 5 set up to and including 12½ set. Altogether there are 62 tables. The book also contains estimating tables for finding the number of characters per line or per inch in any size type from 5 set up to and including 36 set in any measure from 1 to 50 picas or 1 to 100 sq. in. area.

Type Problems

Answered In Comprehensive Book

By STAFF WRITER

JAMES C. MCINTOSH, a Cleveland printing plant executive, is publishing in loose-leaf binder form, transforming and layout tables for use by layout men, ad writers, composing room foremen and compositors, in connection with tabular and blank headings, side heads, inserts and price figure work at the monotype keyboard. The book, which will be ready for distribution about May 1, also contains complete estimating tables for finding the number of characters per line or per inch in any size type from 5 set up to and including 36 set in any measure from 1 to 50 picas, or 1 to 100 sq. in. The complete work is compiled in such manner that, through the use of an index the answers to 96,300 problems may be found instantly. The entire schematic plan of the book, Mr. McIntosh claims, is such that answers to any problem in connection with estimating type or copy-fitting can be found without mathematical computation, or at most with simplified computation. It is also claimed the type estimating section will give results within ½ of 1 per cent.

The section of the book referring to conversion work has separate tables for converting various set sizes from 5 set up to and including 12½ set. Altogether there are 62 tables, consisting of 900 columns for Monotype conversion purposes.

In making the conversions for a table where it is desirable to set the column headings in a different set-width size of type than is used in the body of the table, the answer will be found by turning to the conversion table which gives the various equivalents of these two sizes of type. This is explained in Fig. 2 where the problem is to convert box headings from 8¾ to 7 set.

Size (Rope Dia.) Inches	List Price Each	Dimensions—Inches		Weight in Pounds per 100
		Overall Length	Inside Width	
½	$0.16	3¾	1½	34
⅝	.19	4⅜	1¾	51
¾	.35	4⅞	2	65
⅞	.40	5⅜	2¼	114
1	.50	6⅛	2½	136
1⅛	.65	7½	3	215
1¼	.80	9¼	3⅛	275
1½	2.00	9⅜	3⅜	410

Fig. 2.—Specimen table showing how the McIntosh conversion system is used. In this specimen it is desired to convert the box or column headings from 8¾ set to 7 set. In order to determine the set equivalent of each column the suitable transforming table (shown in Fig. 1) may be consulted.

Starting with the right-hand column (in the specimen table above) which is 6 ems of 8¾ set, follow the guide column (in transforming table shown in Fig. 1) to the index 6 (under the heading "Keyboard Ems"). The equivalent is the figure appearing on a horizontal line in the column under the box heading 7 (which is the set equivalent to which it is desired to make the conversion). This figure is 7.09, or 7 ems and 9 units of 7 set.

In determining the em length of each column (in the specimen table above) after the first column has been converted, it will be found that the second column from the right is 6 ems of 8¾ set; the third column from the right is likewise 6 ems of 8¾ set; the fourth column from the right is 6 ems of 8¾ set, and the fifth column from the right is 8 ems of 8¾ set.

In converting the second column from the right, simply add the em total of 8¾ set to that of the first column which will give the figure 12; now, repeating the procedure as explained above, the equivalent of the two columns will be found to be 15.00, or 15 ems of 7 set. The balance of the table headings may be converted in like manner as has been explained. It will be found that the process is accumulative.

The total of all the headings is 40.00 or 40 ems of 7 set which is the measure to which the keyboard must be set.

In estimating and copy fitting section Mr. McIntosh breaks down the entire range of type faces into a simplified list of six classifications, as follows: Roman with C Arrangement, Light Italic with C Arrangement, Bold Italic with C2 Arrangement, Condensed Bold with C1 Arrangement, Extra Bold with C2 Arrangement and Plate Gothic Arrangement.

In estimating any type area it is essential to know the number of square inches and the set size of type. By knowing the width of the capital "M" of any size type face, the answer to the problem may be found by referring to the set size of the selected type under its proper classification.

The type estimating section is classified so that it may be used in connection with foundry, monotype, intertype, linotype, Ludlow or Thompson typecaster faces.

The book consists of 80 pages contained within black leatherette, 3-ring, loose-leaf binder. Size 8½ in. by 11 in. Die-cut side index with printed reference figures. Explanatory examples showing how to use the system have been provided.

Forward!

THIS machine-creating and machine-using country of our's is in need of further Governmental cooperation. The needed help consists merely of sanction to an abatement of Federal tax on current net earnings which are invested in capital goods.

In a recent nation-wide survey of the Machinery and Allied Products Institute it is shown that potential machinery requirements for renewal of outmoded, depreciated or obsolete machinery now being used in American plants total approximately $18,500,000,000. In this staggering total the highly mechanized printing and publishing industry has a goodly share. Another survey announced in our February issue shows the need for replacement of obsolete newspaper equipment calculated at approximately $44,000,000. The casual observer will agree there is as great need for machine replacement in the commercial branch of the printing industry, too.

Some form of governmental encouragement looking toward a stimulus for demand and employment in the capital goods industries is highly desirable. We like the plan suggested by Henry A. Wise Wood, newspaper machine builder, who suggests that Government permit a temporary exemption from Federal taxation of such net earnings as are invested in new equipment and plant rehabilitation.

For instance, if a corporation invests $1,000,000 in capital goods out of net current earnings, the corporation could claim an exemption of $137,500 Federal taxes, which is the amount represented by the 13¾ per cent tax rate.

Automatically, this plan would help industry help itself since the various corporations, companies, copartnerships or other industrial enterprises supplying each $1,000,000 worth of purchases of capital goods would purchase large amounts of materials and labor. It is estimated that for each $1,000,000 so spent additional employment would be furnished to 400 men for a period of one year.

The labor employed as a result of concerns receiving orders for new equipment would, in turn, contribute to Federal tax income through many avenues of direct and indirect taxation. Thus, it is estimated that Government would not be the loser when the purchasing cycle has been completed because other sources of tax income would be opened which are not now active. In addition, men would be removed from Federal relief rolls and would be given employment, which after all, is a normally human and self-respecting objective, secondary only to the main purpose of the Wise Wood plan—which is to *start the wheels turning.*

Hoe Reorganization

Sitting in the U. S. District Court, Southern District of New York on February 19, Federal Judge Coxe gave tentative approval to the reorganization plan for R. Hoe & Company, Inc., under Section 77B of the Bankruptcy Act. Judge Coxe fixed April 11 as the date for a meeting of creditors and security holders to consider confirmation of the Readjustment Plan.

Under the Readjustment Plan, an extension of the company's first mortgage bonds, notes and purchase money mortgages is provided for. Issuance of new prior preferred and preferred stock is proposed to take care of accrued interest on bonds and notes. During the next few years a payment of interest on bonds and notes will depend upon company earnings. Voting rights to elect members of the Board of Directors by the owners of various classes of stock is also provided for. Provision is also made for the taking care of general claims.

Complete Specimen Book

One of the most comprehensive trade composition specimen books ever published is that of Cecil H. Wrightson, Inc. The book is 7¾ in. by 10¼ in., consists of 130 pages and is bound in metallic foil cover printed in red and black. Handsome rotogravure sheets symbolic of machine composition have been inserted in several places throughout the book. The specimen settings of type faces, rules and borders are completely indexed by series. Page numbers are large and easy to read. To give some idea of the ramifications of the trade composition business of the Wrightson Company it is stated in the book that over 800 type faces, Linotype, Intertype, Monotype and Ludlow, are at the disposal of the planning department to meet the needs of the buyer of printing.

Bert Farrar Speaks

An extended trip that will bring the total of his speaking engagements to fifty-four by August 10 is now planned by Gilbert P. Farrar, Typographic Counsellor for American Type Founders Sales Corporation and the Conde Nast Press, as a result of the unusual interest evinced in his discussion of "The Whys of Modern Typography." In April he is scheduled for three appearances in St. Louis. He will speak also to the Cincinnati Club of Printing House Craftsmen on April 11, and at the Cleveland School Board Auditorium, Sixth and Rockwell, on April 12th.

In June, Mr. Farrar begins a trip that will take him to the Pacific Coast during July and August.

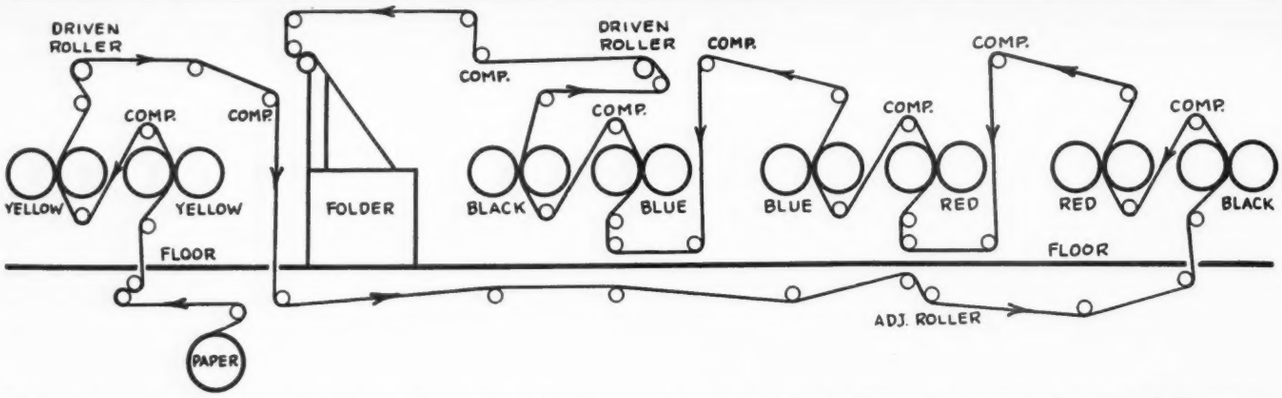


Diagram showing how Hoe Super-Speed Printing Press Units were adapted by Charles B. Little, pressroom superintendent of the Akron (O.) Times-Press, *for printing 12-page collect run in three colors and black on both sides of the sheet. One section is composed of six standard newspaper-size pages and the other section consists of twelve tabloid pages. The lead running from the second impression yellow to the next color is 58 ft.*

Prints Color on Newspaper Black Units

PRINTING three colors and black in a twelve-page collect run without the use of a special color press is the unusual accomplishment of Charles B. Little, pressroom superintendent of the Akron (O.) *Times-Press*. One section consists of six standard newspaper-size pages and the other section consists of twelve tabloid-size pages. In fact, the alterations necessary in converting regular newspaper black printing press units so as to make them suitable for printing the Akron *Sunday Times* comic section and the tabloid *Screen and Radio Weekly* in three colors and black on both sides of the paper were accomplished without the necessity of buying any new equipment.

A Hoe Super-Speed press consisting of four units with pump fountains is used to print the sections.

Charles B. Little, Pressroom Superintendent, Akron (O.) Times-Press.

Among the changes which had to be made was that of converting a pipe roller above each unit used in the color work to a compensating roller. Two pipe rollers were installed under two of the units where the web is taken from one unit to another. These rollers were appropriated from other places on the press.

The lead from the second impression yellow (which runs mostly under the floor) to the next color is 58 ft. The lead from the other units is 20 ft. from color to color. The rollers used under the press to carry this long lead are regular type rollers which were formerly used to carry paper from the reels into the units.

Every other section is being slit by a 4-in. jump slitter. The slitter is timed at folding cylinder speed and one-half of the slitter cutting edge is ground off.

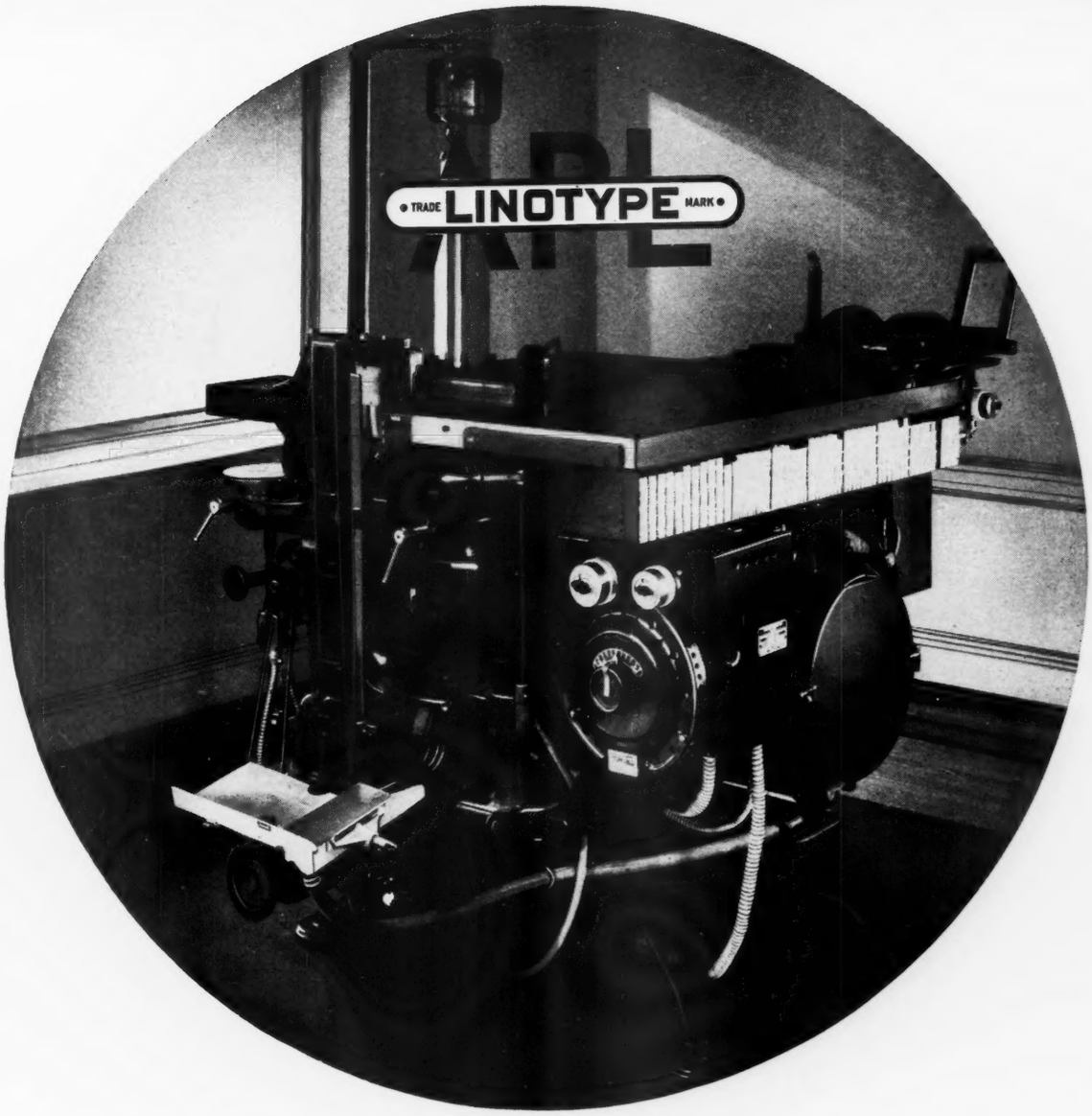
Mr. Little states that all color printing is being done with soft packing, thus eliminating any makeready. The packing consists of rubber, Fitz livecork and a drawsheet. To maintain good register and to avoid web trouble it is essential that the packing on all cylinders be of the same thickness in order to keep cylinder circumferences alike at all times.

Carter Assumes New Duties

Geo. H. Carter, formerly Public Printer of the United States, recently became associated with the Lanston Monotype Machine Company as Assistant to the President.

Mr. Carter needs no introduction to printers of the United States and Canada since he is a member or honorary member of many printers' organizations.

As director of the United States Government Printing Office from 1921 to 1934 he was an active participant in many movements which had for their purpose the betterment of conditions prevailing throughout the commercial branches of the industry. His record of thirteen years as head of the world's largest printing plant stands unparalleled, both from accomplishments and tenure in office.



The ALL-PURPOSE LINOTYPE *does much . . . costs little. Start with modest investment. Use present matrix equipment. Add to it as needed.* A-P-L *casts slugs of hand-set lines, 42 picas long, any size from 6 to 144 point. Any compositor can use it. No special training needed. In spare time it casts rules, borders, space and base. Initial installation need not amount to more than $2500 to $3000.*

MERGENTHALER LINOTYPE COMPANY

BROOKLYN, NEW YORK

Set on the A-P-L in Granjon

Mechanical executive staff responsible for production in the new plant of the Washington (D. C.) Daily News. *Reading from left to right they are as follows: James Wolfkiel, photoengraving department; Walter Ogden, superintendent pressroom of the Cleveland* Press *who supervised mechanical installation; Harry Sargeant, stereotyping department; Frank Hood, composing room, and Frank Fitzgerald, pressroom.*

New Plant

For Washington "News" Is Modern

By RAOUL BLUMBERG*

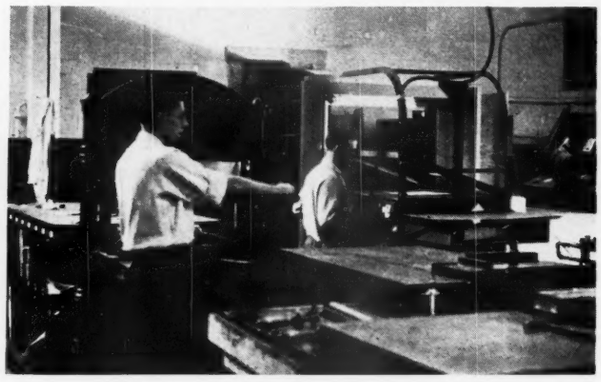
FOR 13 years *The Washington Daily News* was housed in a long, narrow plant in which it was necessary to use artificial light at all times in practically every office. No expansion room whatever had been provided although the paper experienced a trenmendous growth, particularly during the past five years. Light and expansion possibilities were, therefore, two most important factors considered in planning the new *News* building.

News executives consider that the problem of obtaining these factors without sacrificing anything in the way of present efficiency or in the building's appearance, was worked out in the best possible manner by William Ginsberg, consulting engineer, who designed and built the new plant. Appearance was of particular importance since the building is of the Colonial type, conforming in this way to the old Washington tradition.

Mr. Ginsberg paid particular attention to the sequence of manufacture in the preparation of the newspaper, so that there would be no lost motion in the making of the finished product.

*Promotion Manager, The Washington *Daily News*, Washington, D. C.

New building which houses plant of the Washington (D. C.) Daily News. *The building is of the Colonial type and was designed to conform to the old Washington tradition. It occupies an area of 47,000 square feet of floor space. About 4,500 feet of floor space was set aside for the parking of automobiles used by those connected with the* News. *Space at present available in the building has sufficient area to accommodate an expansion of 100% in newspaper requirements.*



Corner of photoengraving department, Washington (D. C.) Daily News. *Principal equipment used in this department consists of Chemco camera using Stripfilm, etching machine, automatically-operated oven and cooler and stripping table; thermostatically-controlled hot-box drier; Macbeth automatically-timed arc light; two Royle standard routers and Royle bevel router; Niagara Machine & Tool Co. chopper; Ostrander-Seymour saw; specially-built DeVilbiss pressure gun for re-etching.*

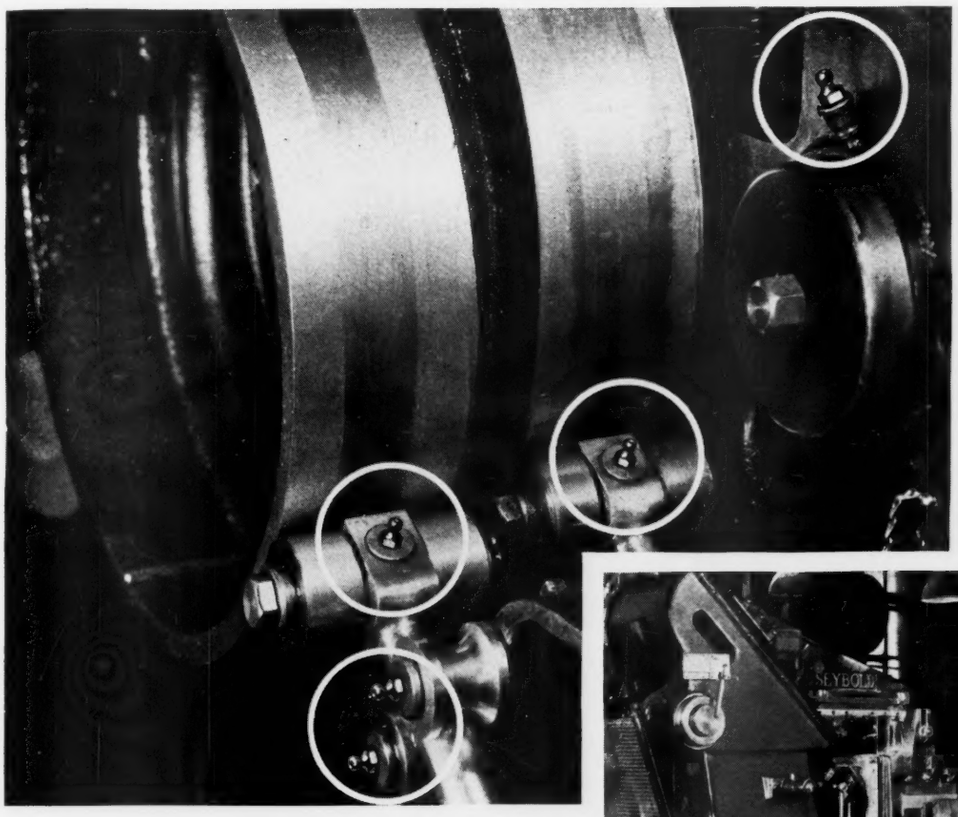
The new Washington *Daily News* building is modern, fireproof, of reinforced concrete, has light and ventilation on all sides, and is located at 1013-13th St., N. W., Washington, D. C. It occupies an area of about 47,000 square feet of floor space which includes the business, editorial and mechanical departments. In addition, about 4,500 square feet of floor space in the basement was consigned to the parking of automobiles used by those connected with the paper.

The entire space occupied by the newspaper is confined to two stories and basement. The third floor is occupied by such departments associated with Scripps-Howard as Newspaper Information Service, Acme Pictures and Newspaper Enterprise Association. The amount of space available in the building at present has sufficient area to accommodate an expansion of 100% in newspaper requirements.

The presses were laid out in such a way as to permit adding

ALEMITE IS SAVING MONEY FOR THE CUNEO PRESS, Inc.

— and can do it for YOU!



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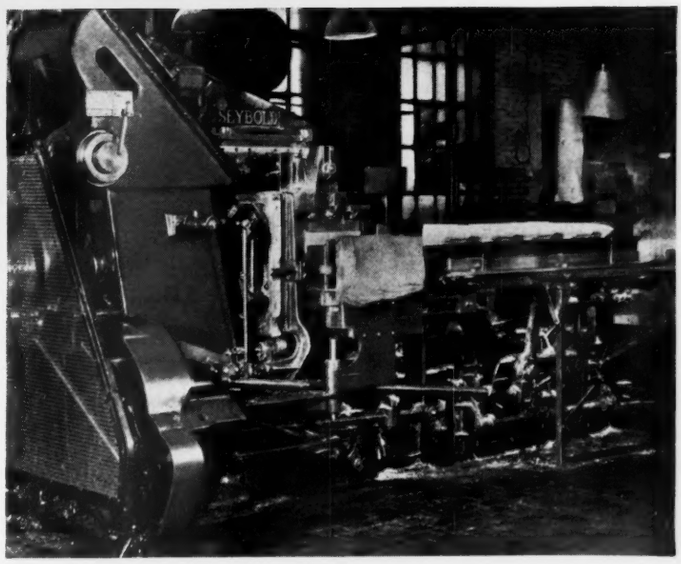
AT LEFT: This close-up view of the cam bearings on the Seybold Trimmer shows how Alemite Fittings are installed on oscillating bearings. For bearings of this type, Alemite Lubrication Engineers recommend Alemite Temprite Lubricant No. 33 E.P.—a pure, solidified oil that remains plastic in the bearing, sealing the closure against dirt, paper dust or other drying or abrasive substances.

BELOW: This photo shows a Seybold Continuous Automatic Book Trimmer operating in the plant of The Cuneo Press, Inc. This machine trims 40,000 sixty-page magazines per hour. It is 100% Alemite equipped and lubricated with Alemite Lubricants.



This Modern, High-Pressure Lubrication System Cuts Lubricant Costs—Saves Labor—Gives Plus-Protection to Vital Bearings On Printing Machinery

● Now, regardless of the size of your plant or shop, you can make amazing savings by lubricating machinery with Alemite. The change-over is simple, easy and quick and will not interrupt service. You simply replace and eliminate grimy, dripping, hard-to-service oil holes and uncertain grease cups by installing Alemite Fittings that assure positive lubrication without waste of time or lubricant. The modernization cost is low and you can *save up to 80% on labor, lubricant and repairs.*

Major manufacturers of printing machinery are now supplying Alemite as original equipment, but any machine now in operation—Presses, Cutters, Folders, Stitchers, etc.—can be modernized with Alemite at minimum cost. And it will quickly pay for itself by supplying clean and positive lubrication of vital bearings—both plain and anti-friction types.

Get in touch with your industrial supply house today. Get complete information about Alemite and how it can save money in *your* plant. Or write us direct and full details will be sent to your desk. There's no obligation. Address a note on your letterhead to:

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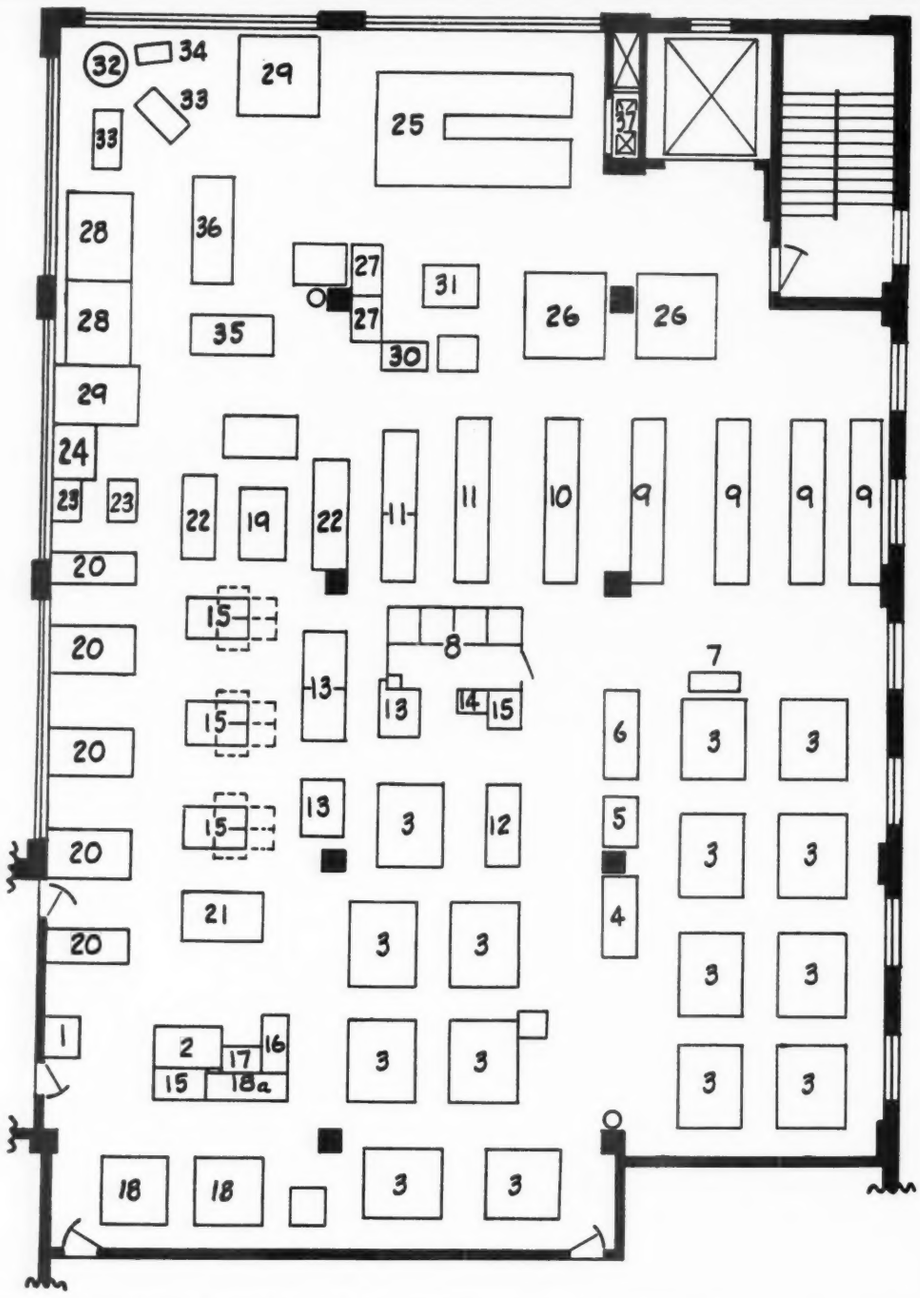
Controlled Application of the Correct Lubricant

By supplying clean, modern, positive lubrication service—eliminating repairs and waste, this man is saving money for thousands of print shops. Is he working for you?

FLOOR PLAN

Composing Room and Stereotype Department, in new plant of the Washington (D. C.) DAILY NEWS. *These two departments occupy the second floor of the buliding.*



COMPOSING ROOM

1. *Foreman's Desk.*
2. *Ad Foreman's Desk.*
3. *Intertype Machines.*
4. *News Dump.*
5. *Electric Proof Press.*
6. *Correction Bank.*
7. *Telegraph Table.*
8. *Proof Room.*
9. *Five Trucks Each.*
10. *Makeup Table.*
11. *Makeup Storage.*
12. *Banner Type.*
13. *Ludlow Machines.*
14. *Ludlow Cabinet.*
15. *Saws (5).*
16. *Machinist's Bench.*
17. *Supply Cabinet.*
18. *Monotype Casters.*
18a. *Monotype Storage Cabinets.*
19. *Hand Press.*
20. *Ad Banks.*
21. *Ad Machine Dump Bank.*
22. *Ad Storage.*
23. *Foundry Type Cabinet.*

STEREOTYPE DEPARTMENT

24. *Stereotype Foreman's Desk.*
25. *Autoplate Machine.*
26. *Mat Molding Machine.*
27. *Routers.*
28. *Saws.*
29. *Router.*
30. *Roaster.*
31. *Work Bench.*
32. *Metal Pot.*
33. *Flat Casters.*
34. *Pig Caster.*
35. *Flat Shaver.*
36. *Base Table.*
37. *Plate Drops.*

to the present equipment in the future as the paper expands. All of the departments, from the delivery of the raw paper, by means of a chute at the loading platform in the rear of the building, to the delivery of the finished bundles of newspapers to trucks, were planned to be contiguous and as automatic as it was possible to arrange them. The natural slope of the site permitted an unusual headroom for the presses together with natural light and ventilation in the pressroom.

The entrance to the offices is remote from the entrance to the mechanical departments and with a system of soundproofing and isolation installed in various parts of the building, the offices are comfortable and quiet.

The pressroom is parallel and adjacent to the mailing room which leads directly to the driveway and loading platform in the rear and makes for easy delivery of the finished product to the distributing trucks.

The circulation and business departments are directly connected to the pressroom and the managers of these departments, namely, the press, engraving and circulation are all located on the same floor and have easy access to each other. The ad takers' and telephone rooms are also located in space adjacent to the business department.

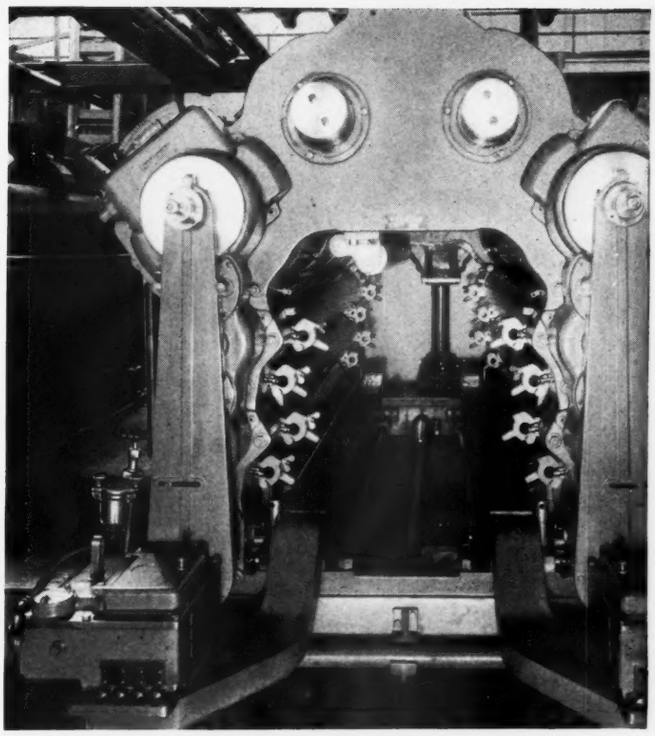
The rear of the first floor leads to the loading platform. The trucks delivering paper and taking newspapers away have a long, unobstructed drive to this part of the building and can reach it by means of two streets and alleys.

The contiguity of the circulation and business offices and its executives, the engraving department, the press department, mailing room, and the loading platform should prove to be a very efficient and rapid layout. Each department has its own toilet room facilities located within its own space.

The composing room and stereotype foundry are situated on the second floor immediately above the mailing room and pressroom and are connected to the press and mailing rooms by means of a plate drop and a freight elevator.

Adjacent to the composing room is the editorial department and its various executive offices, completing the circuit

Continued on page 28



Ink rails carry the clean ink to the inking cylinder.

PERFECTED

by

HOE

...the automatic ink pump with safety control

Control Box, outside the press, promotes safety and rapid adjustment.

Since this patented system was perfected by Hoe, more than 4250 units have been installed and are now in daily use. One man operating the patented ink control boxes can quickly set all the color, all from one side of the press, without having to go inside it or walk around it. It's a finger-tip control which saves time and effort and promotes quality printing and safety for the pressmen. Clean, strained ink is supplied in direct proportion to the speed of the press from a central supply directly to the ink distribution cylinders. In addition to the individual control of each column, the color on each page can be controlled separately or shut off altogether.

Savings in time, improvements in quality at maximum speed plus greatly increased safety and convenience for the pressmen—they feature this Hoe contribution and are the basis of every Hoe development.

Cleaner, more economical and *safer*.

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BOSTON SAN FRANCISCO CHICAGO

Automatic Lubrication

As Applied to the High-Speed Cylinder Printing Press

By S. A. HUFFMAN, M. E.*

LUBRICATION became a problem with the creation of the first machine element which was probably the wedge or inclined plane. As other machine elements came into being, the question of lubrication became more and more important until today with our heavy pressures, extremely close tolerances and high speeds, it has become a paramount issue. This is especially true of the modern printing press where accuracy, high speed, and uninterrupted performance over a period of years are required.

In a plain bearing such as is used in printing presses, the journal or shaft is slightly smaller in diameter than the bearing in which it turns, and when properly designed so that it has the proper clearance, the proper load per square inch, the proper speed, the proper finish and materials, the proper method of oil application and the correct amount and kind of lubricant, the journal is completely supported by a film of oil. *There is no metal to metal contact, and just as long as the film of oil separates the two metal surfaces, there can be no wear.*

Operating under these conditions a bearing should never wear out and the driving force required would be less than 1/100 as great as for a completely dry bearing, whereas with less perfect lubrication the energy required might be ten times that much.

ELEMENTS AFFECTING MAINTENANCE OF OIL FILM

The maintenance of such a perfect oil film in any plain bearing is, of course, extremely difficult due to the great number of factors controlling it. Too loose or too tight a fit of shaft, too great speed, too great load of projected area, too great temperature and a dozen other such items will destroy the oil film and prevent good oiling. The size, shape and location of oil grooves affect the oil film as does the character of the rubbing surfaces and the material of which they are composed. And finally, but far from least important, the bearing must have a sufficient supply of the current quality and kind of lubricant.

*Engineering Department, Miller Printing Machinery Company, Pittsburgh, Pa.

For many years the manufacturer of a machine has been able to control bearing load, area, speed, temperature, clearance, surface finish, kind of materials, radiating capacity, shape, size and kind of oil grooves. He could recommend certain kinds and qualities of lubricant. But until recently he could not make provision to even reasonably assure an adequate application of the lubricant without which all care in material and design are useless.

Fig. 2.—The Lubricating Unit used in the automatic force-feed oiling system in Miller Simplex single and two-color presses. The gauge indicating the amount of oil in the reservoir is shown at the front of the Lubricator body. The filler cap shown at the upper left is hinged to permit the oil supply in the reservoir to be replenished. This unit carries in the housing at the top of the reservoir a pump and timing unit, both of which are driven by a chain or gear. The gear or sprocket for the chain drive is mounted upon the pump shaft extending from the upper right portion of the Lubricator Unit. The driving connection may be seen by examining Fig. 1.

PROGRESS IN BEARING LUBRICATION

In early bearings lubrication was provided by cutting some kind of crude oil groove and drilling a hole to admit the oil to it. This method, with refinements in the nature, shape and position of the grooves was, and still is, quite satisfactory

Continued on page 35

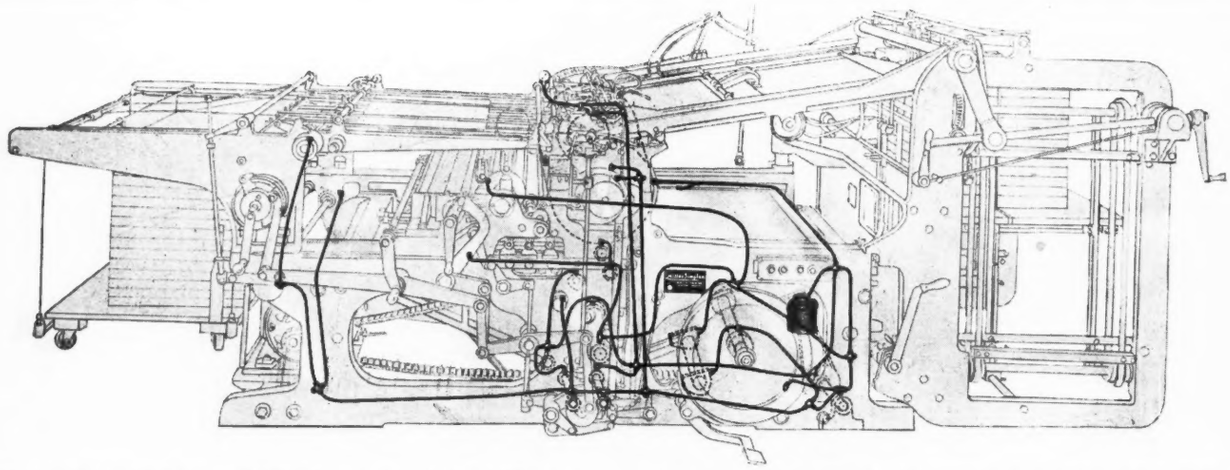

Fig. 1.—Automatic Force-Feed Oiling System as applied to Miller Simplex single and two-color presses. The Lubricator is shown at the right-center portion of the picture. This Lubricator Unit, as will be seen in the phantomed diagram, is actuated by chain drive from a special sprocket. At the upper central part of the diagram is a gauge which indicates to the pressman the pressure at which oil is being delivered to the bearings as well as showing the regularity of oil flow while the press is in operation.

Ideal branch sales offices are located in the principal cities so as to facilitate the most efficient service

Increased Production At Less Cost per Impression

REALIZE the most from your present equipment by using Ideal Vulcanized Oil *distributing* rollers on your presses. These fine rollers were specially developed for producing fine printing. They have been in constant use by leading printers for the past eighteen years.

Made of vulcanized oil, they possess a natural affinity and tack for ink and are unaffected by climatic conditions. These rollers will not swell or shrink. Even at high speeds they operate with full efficiency, and by following simple instructions regarding their use regrinding is never necessary.

The wonderful results that DX rollers are producing on newspaper presses and the old reliable Ideal rollers on lithographic presses can be duplicated for you in the typographic field by Ideal Vulcanized Oil *distributing* rollers used in conjunction with Ideal Process or Graphic non-meltable form rollers.

The services of an efficient roller adviser are at your disposal simply by sending in a request, which will entail no obligation.

IDEAL ROLLER & MANUFACTURING COMPANY CHICAGO NEW YORK

FINE STEREOTYPING

THERE'S A NEW ERA IN

SILVERTONE

YESTERDAY, printing executives thought they knew all about stereotyping, its uses, its limitations.

Today they are studying the subject all over again, re-framing their ideas in the light of new accomplishments by the Silvertone Mat.

They know its metal-like face will take an impression of unprecedented depth and sharpness; that it reproduces fine screen halftones with a brilliance unique to the art.

But the full field and function of Silvertone Stereotyping — whether in newspaper or magazine publication, in book or catalog work, in advertising production or syndicate service, is for them to determine — these printing executives, each in his own field.

In trial orders they will distinguish between the Seeto Silvertone, adapted to the usual dry mat technique, and the Imprestomat Silvertone, for drying on the form.

•

SILVERTONE PROCESS CORPORATION

342 Madison Avenue
NEW YORK, N. Y.

A. N. P. A.

Mechanical Conference Is in Detroit

By STAFF WRITER

As was announced in the March PRINTING EQUIPMENT ENGINEER, *the A. N. P. A. Mechanical Conference will be held at the Hotel Statler, Detroit, on May 27, 28 and 29. It is expected that a large number of newspaper mechanical executives will be in attendance which number should exceed the very fine attendance at the St. Louis Conference last June.*

At this time the program has not been completed but tentative arrangements indicate an unusually interesting number of topics for discussion.

A departure in programs will be introduced this year by segregating the various newspaper mechanical department groups into separate meetings. Informal evening meetings for photo-engravers, composing room men, stereotypers and pressmen will be held Monday and Tuesday evenings, May 27 and 28. An observer for each departmental meeting will report to the Conference the following day any important points in the discussions.

It is Manager Wines' intention to devote one session to the subject of safety in newspaper printing plants. For this purpose a competent speaker will be engaged who will be followed immediately by a number of mechanical executive speakers from member newspaper plants.

One conference session will be assigned to photo-engraving, at which time attention will be given to the stripfilm camera and it is expected to have a speaker who has had experience with both stripfilm and wet plates. Reports will also be made from small newspaper plants who have been operating one-man photoengraving plants.

It is also planned to have a speaker on the topic: "How To Get the Best Results from Type Metals." This talk will be approached from a practical standpoint.

Duotone

Plates for Special Color Reproduction

By ROBERT F. SALADE

AMONG special color printing processes of the more important groups are those devoted to pictorial reproductions, in actual colors, of the following kinds of product and merchandise: Naturally grained hardwood lumber (seasoned and finished), such as chestnut, oak, walnut, maple, cedar, etc.; crotched walnut wood panels and panels made of other kinds of grained wood; hardwood doors, staircases, floors, and other types of millwork. Face brick and art tile, of many different colors and styles. Color designs or patterns of linoleum, cork and rubber, of the kinds used as floor coverings or rugs. Hardwood furniture for homes and business offices. Steel cabinets finished with grained wood effects. This list is by no means complete, but it will give a good idea of some of the many kinds of manufactured product which cannot be reproduced by printing to the greatest advantage with the usual makes of halftone process color plates.

For example, it has been proved that a subject like a crotched walnut wood panel can be reproduced faithfully in letterpress printing with one solid background plate and a set of two duotone plates, making three colors in all, *i. e.:*

The solid background plate was printed in a yellow-buff shade of ink. Then, the first duotone plate was printed over the base tint in a light brown shade of ink, and finally, the second duotone plate was printed over the other two colors in a dark-brown shade of halftone ink. The finished results were astonishing as to their exact reproduction of the colors and grain of the walnut wood panel. The duotone printing plates were made by halftone photoengraving methods, engraved especially for two-color process printing to be applied to the surface of a solid tint base or background.

The same type of duotone photo-engravings and tint plates can be made to reproduce the actual colors and grain of any kind of finished hardwood, such as light or dark oak, chestnut, American walnut, mahogany, etc. Flat colors are used in printing the solid backgrounds of desired tints, and duotone inks are usually employed in printing the sets of two-color process engravings. The printing can be done on any good, smooth make of white paper. Color reproductions of this class are used on sample sheets distributed by fine hardwood lumber concerns; as illustrations in furniture catalogs, and in other lines of illustrated advertising literature. As a matter of record, prints of different grained woods have been utilized to finish inexpensive makes of home furniture in this way. Properly cut pieces of the prints were glued to the wood used in the making of the furniture, just as wood veneer is applied, and then the covered wood was varnished and polished so that when completed, even an expert could hardly tell the difference between real grained wood and the imitation.

Printed reproductions of genuine grained wood furniture and of other grained wood articles are also made by means of solid tin plates and duotone photoengravings. These facsimile illustrations are used in catalogs, brochures, broadsides and the like which serve to advertise the product both to retail dealers and consumers. It is quite possible to have the same types of illustrations reproduced in national magazines and trade journals. With modern photoengraving methods, it is practicable to have photographs of the kinds required

DULLSET INKS

In 1930 the Morrill Company, realizing that a demand existed for dull inks without shine, developed DULLSET INKS which have since become very popular.

Since the advent of rubber plates, it has been proved that DULLSET INKS work better than any other kind of ink on this type of plate.

DULLSET INKS produce effects superior to water colors.

DULLSET INKS do not require special rollers or plates.

DULLSET INKS may be obtained in a wide selection of shades. They are vivid and pure in tone.

DULLSET INKS may be used on many classes of paper, coated as well as uncoated. Obtainable in transparent as well as opaque body.

DULLSET INKS will overprint in two or more colors on solid surfaces without shine. They are also made in process colors.

DULLSET

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DIVISION
GENERAL PRINTING INK CORPORATION
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ADVERTISERS, GOD BLESS 'EM CAN STALL A PAPER

BIG edition days again — ad alleys and machines crowded, late copy, late corrections and — as a result — half the forms crowding into the stereotype department almost at the deadline.

Then you're grateful for Certified Mats that don't get temperamental in a pinch — mats that scorch quickly and deliver a perfectly acceptable first cast.

Then you realize that the trifling sum you pay for Certifieds is your best publishing investment.

For dependable stereotyping, rely on Certified Mats, made in the U.S.A.

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Certified DRY MATS • • • •

for making duotone engraved plates taken direct from the objects to be reproduced in actual colors; that is, articles such as grained wood furniture, wood panels, grained leather products and other objects which are adaptable to this process.

A set of (two) duotone plates, to be printed in two different colors over a solid base tint, represents an outstanding advance over the old methods of (1) using a single halftone plate for printing two different colors—one over the other, and (2) printing one dark color over a solid tint base from a single halftone.

The fact should be mentioned that a set of two duotone engraved plates, made properly for the purpose, can be printed in any desired two colors for pictorial reproduction, and with or without a solid tint base. For the most exacting reproductions of wood and similar subjects, the solid tint background is always essential. Tints of the following shades have many different uses: Pale yellow, cream, buff, old ivory, light yellow-brown, corn, pale orange, lemon yellow, fawn. The darker colors for the duotone process include many different shades of brown and green, also various shades of orange, light brown and tan. Any of these colors and tints, as well as special types of duotone inks in any desired color, are supplied on order by large printing ink manufacturing concerns. Experts employed by these concerns are capable of matching colors for any printing job. Photo-engravers making duotone engravings or any other kinds of color plates, furnished the customer with progressive proofs of each set of plates. The progressive proofs show the color to be printed by each plate.

Again referring to the numerous uses for duotone plates for color reproduction in printing, they are employed to show both the colors and textures of various makes of face brick, tile and related lines of building material. With illustrations of this class, the solid tint base is printed to show the color of the material, while the duotone printing shows the texture of the face brick, tile, wall finish or other material. In this manner, exceptionally interesting true-color pictures are printed in catalogs, brochures and booklets—pictures of brick houses, tiled floors, brick fireplaces, tiled bathrooms, coarse textures and tints of wall composition material, brick bungalow porches. While it is true that the same range of illustrations can be printed by means of a tint background and an ordinary single-color halftone, such pictures have a flat appearance despite the tint base.

There are two distinct methods of printing single-color halftones in duotone ink and because of the wide range of uses for these kinds of special color printing, both methods are briefly described.

In the first place, deep-etched 120-line screen halftones will give better results with duotone ink than regular engraved halftones, and they can be printed from on any of the following makes of paper stock: The new types of velvet finish matt art paper, some lines of which are now stocked in white, cream, toned, buff, beige, India tint and silver gray. The new types of uncoated art "parchment" and matt art book papers, made in white, cream and other tints. Dull-finished coated book papers. Regular makes of coated, calendered, plated and enameled papers. Hard, smooth-finished makes of bond paper. Hard, smooth makes of cover stock. Velvet-finish matt art types of cardboard. For halftone printing on any of these paper stocks, mechanically etched chalk relief overlays should be used for the halftones in the makeready, and the printing plates should be attached to a patent metal plate-mounting system so that the plates will stand up under the necessary heavy impression. Wood-blocked halftones should never be used, even for short runs of fine work. In plants where the equipment does not include plate-mounting systems, halftone plates can be individually mounted on solid lead base to type-high.

The first and most popular method of printing single-color halftones in duotone ink is without the use of a special

tint base. The duotone ink of whatever dark color used will show several different shades of the color in the finished printing, and this is the result desired. The different shades of color are caused by the amount of ink applied respectively by the high-lights, intermediate detail and semi-solid areas of the halftone. The printing may be done in any standard color of duotone ink such as, photo-brown, dark brown, dark blue, dark green, blue-black, green-black, etc. High-grade duotone ink is made of essential materials in such manner that when a print of a halftone is taken with this ink on white paper, the oil and pigment in the ink will spread slightly around each printed halftone dot. It is this action that causes a duotone print to appear in several different shades of the color used. The result is particularly artistic on dull-finished coated or uncoated matt art paper of such tints and cream, buff, India tint or silver gray. When the halftone printing in duotone ink spreads slightly on the surface of the paper, the halftone dots come closer together, thus eliminating to a considerable extent the open space between all sizes of the halftone dots, and at the same time, forming different shades of color. With an ordinary magnifying glass, held about three-quarters of an inch above a duotone print, the effects as described can be plainly seen. Even these beautiful results are enhanced when the printing is done in a Van Dyck shade of duotone brown ink on cream, buff, beige or India tint matt art paper, the color of the paper adding tones to the high-lights and intermediate portions of the duotone print. This process so closely approaches the appearance of monotone photogravure and sheet-fed gravure printing, that the difference is hardly noticeable. In fact, there are some grades of halftone duotone printing that present a better appearance than ordinary monotone gravure work, depending, of course, upon the quality of the printing plates, paper and ink used. Type matter, including text and legends for illustrations, can be worked in the same form with halftones for duotone printing, and this is an advantage over both gravure and offset printing, because the printing may be done direct from the type as well as from the halftones. Duotone printing may also be done from nickeltype plates made from original deep-etched halftones.

The second method of halftone duotone printing involves the use of solid tint or background plates. This method is ordinarily followed for printing on white paper stock. The usual tints for printing the base are cream, ecru and coffee. The process of printing halftones in duotone ink on a solid base tint is adaptable to long runs of illustrated catalog work produced on cylinder presses. For some classes of this work, the so-called "highlight" halftones are used, including plates with vignetted edges. The finest kinds of "highlight" halftones are made in the photoengraving industry by means of the patented Bassani apparatus and process, described briefly as follows:

The Bassani apparatus consists of an attachment to the camera that oscillates the halftone screen during the period of exposure, thus producing more detail and what are known as highlight negatives; *i. e.*, negatives in which the halftone dots are entirely eliminated in the extreme highlights. This makes it possible to reproduce in facsimile anything that can be drawn on suitable paper, with lead pencil, charcoal or crayon, including wash drawings. All the tone values, from dense black to pure white, are retained in the negative. Regular highlight halftones can be made from good photographs in the same manner, with the halftone dots eliminated in the extreme highlights. It should repay every letterpress printer to study carefully the present and future possibilities of the many different kinds of "highlight" halftones which can be supplied on special order by the larger photoengraving companies.

AND FUEL BILLS WERE CUT DOWN

CAN'T WE CUT DOWN ON THESE HIGH FUEL BILLS
SURE SWITCH TO IMPERIAL
IMPERIAL METAL CASTS AT LOWER TEMPERATURE AND SAVES FUEL
IMPERIAL SALESMAN
SIX MONTHS LATER
IMPERIAL DID THE TRICK THIS BILL IS QUITE A BIT LESS
NOT ONLY THAT WE HAVE LESS DROSS TOO

Imperial
METAL

THE IMPERIAL TYPE METAL CO.
Philadelphia · New York · Chicago · Los Angeles

Four-Sided Bleed Trim

Newspaper bleed pages are being used by advertisers to some extent. Since this idea was projected by George W. Speyer, production manager of J. Walter Thompson, Chicago, at the St. Louis A. N. P. A. Mechanical Conference, numerous mechanical executives in various parts of the country have experimented with the possibilities of bleed trim newspaper pages.

Among the developers of methods for printing four-side bleed-trim pages in black and color is K. W. (Doc) Laycock, pressroom foreman of the Wilkes-Barre (Pa.) *Times-Leader*, whose method for making plates and printing from them has been described in several issues of *Printing* EQUIPMENT *Engineer*.

We are in receipt of a specimen 12-page section of the Wilkes-Barre (Pa.) *Times-Leader*, sent by E. W. Prophet, mechanical superintendent of that paper. The front page of of the section which was printed for the Wilkes-Barre Boston Store, bleeds off all four sides of the sheet and is printed in black and red. Lettering runs into what would be, normally, the margin of a standard newspaper page.

Execution of the work on this section reflects great credit upon the ability of Mr. Prophet and his mechanical staff.

Installs 24 Linotypes

The latest issue of The Linotype *News* announces that the Brooklyn Daily *Eagle* has completed the installation of twenty-four New Model 8 Linotypes, more than fifty fonts of Ionic No. 5 body matrices from 5½ to 9 point, and many display fonts for news heads and advertising.

This installation is part of a modernization plan being carried out by the Brooklyn *Eagle* to prepare itself to handle more business in the days ahead.

G. E. Progresses

At the March meeting of the board of directors of the General Electric Company the preliminary results for 1934 were presented, showing orders received of $184,000,000 compared with $143,000,000 in 1933, an increase of 29%, and sales billed of $164,797,000 compared with $136,637,000 in 1933, an increase of 21%.

The net profits available for the common stock, as a result of the year's operations, are $17,151,000 compared with $10,855,000 for 1933. This is equivalent to approximately 59c per share compared with 38c in 1933. The dividends in 1934 were 60c per share compared with 40c in 1933.

The dividend for the first quarter of 1935 of 15c per share was declared on the common stock, payable on April 25, 1935, to stockholders of record of March 15, 1935.

Ohio Executives

John B. Hogan, composing room superintendent of the Cleveland *Press*, who is temporary chairman of the proposed Ohio Composing Room Executives, has announced that an organization meeting will be held in Portsmouth on Saturday and Sunday, April 6 and 7, at which time permanent officers will be selected.

The purpose of the organization is to offer opportunity for presenting new ideas and discussion of problems which find their way into composing rooms.

Production managers, mechanical superintendents, composing room superintendents and foremen, ad alley foremen and machinists employed in any Ohio printing plant are eligible for membership.

11

FORM-O-SCORCH
MACHINES INSTALLED IN FEBRUARY

●

That the larger Metropolitan Newspapers are recognizing the many advantages of this simple, rugged and efficient scorcher is proven by the recent installation of two in the "New York Mirror" and one in the "New York Journal-American."

American Publishers Supply
West Lynn, Massachusetts

• Letters to the Editor

HAS ITS USES, AFTER ALL

A rather pathetic story appeared in a recent issue of *Printing* EQUIPMENT *Engineer*. The story told us about the "humble potato grater" being drafted for service in the modern newspaper plant. Of course, we old graybeards are always saying, "I remember when," but it is a fact that this same means for preventing offset has been in use quite a long time. It has advantages, of course, but if the uninitated think this is a panacea for all offset troubles they must think again. This same old grater sure has its faults so far as stopping offset is concerned. If it isn't scrubbed out regularly with a steel brush the fancy stipples it can put on the finished product in all the colors being printed will surprise the unsophisticated. Ask some of the boys who have reached over inadvertently to stop one of these potato-grater-faced pipe rollers after a sheet break and who have lost half the epidermis on a hand just where he classified the derned thing at the moment. No kidding, though, the idea is O. K. For pulling in tardy sheets at the folder it is very, very good. Just put a strip or several strips of it around the large cylinder and it will do wonders as it is not of sufficient thickness to cause distortion of the circumference of the folding cylinder (thereby disturbing folding operations) but it does have a tremendous pulling power that is easy on the surface of the sheet. On tabloid operation where many ribbons must be associated it is a life-saver.

But, scrub it out, brother, with the steel brush or you will have another printing unit.

Truly yours,

IMPRESSION PETE.

Many Addresses By Gage

Harry L. Gage, president of the American Institute of Graphic Arts who has been making many talks in recent weeks on the 1935 T. & H. calendar (a repeat assignment, as he reviewed the 1934 calendar in some twenty cities last year) is scheduled for many more addresses.

Among these will be one on the calendar before the Eastern Arts Society, in Philadelphia, April 13; one on "Trends in Typography," before the Typographers' Association of New York City, April 25; a presentation of "The Plan to Promote Newspaper Advertising," before the National Editorial Association, in New Orleans, May 8, and a talk at the fourteenth annual conference of the Teachers of Printing, at Boston, June 25.

Accepts Chairmanship

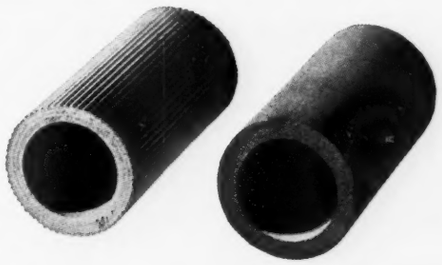
Dr. Frank B. Jewett, President of Bell Telephone Laboratories, Inc., and Vice President of American Telephone and Telegraph Co., has accepted the position of national chairman of a campaign to raise a working capital fund of $161,000 for Engineering Index, Inc.

Announcement of Dr. Jewett's acceptance was made by Collins P. Bliss, President of the Index, Suite 1716, 25 W. 43rd St., New York, New York, who is also Dean of the Engineering School of New York University. President Bliss has headed a movement to save the index and annotating service of the engineering profession since it was discontinued as an activity of the American Society of Mechanical Engineers a year ago.

In accepting the Chairmanship of Engineering Index National Committee, Dr. Jewett said: "Only my deep concern for the preservation of this essential service could induce me to accept this responsibility. The keeping of the records of science is one of the most important and valuable activities."

Operator, Machinist and Foreman

appreciate the qualities of Booth's Linecasting Machine Keyboard Rolls.



The Foreman likes them because operating errors due to rolls of unstable quality have been eliminated.

The Operator likes them because of dependable cam action as he manipulates the keyboard keybuttons.

The Machinist likes them because of their constant diameter from end to end, permanent resiliency for life of the roll and non-blooming stock. (Non-blooming means that a minimum amount of sulphur is used in compounding the material from which these rolls are made and cannot work out nor foul the keyboard cams.)

•

If you would like to experience real roll satisfaction send for a pair at $1.20. $6.60 per dozen rolls. 50c each in lots of 100. Corrugated or plain — as you choose. Colored green for your protection.

•

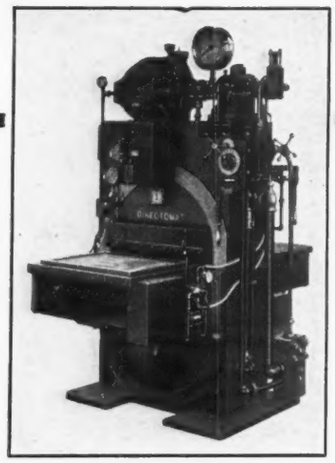
Other Booth Products

Printers' ZINK Cut Cement, only 50c per new large tube. Lots of one dozen, $5 per dozen tubes. Lots of six dozen, $4 per dozen tubes. Gross lots, $3 per dozen tubes.

Booth's Engravers' Concentrated Rubber Cement is $7.50 per 5-gallon can. When mixed 4-or-5-to-1 with benzol, makes 20 to 25 gallons of rubber solution.

The E. A. Booth Rubber Co.

364 Rockefeller Bldg. Cleveland, Ohio



The **DIRECTOMAT**
Hydraulic Matrix Press

is destined to do for newspaper stereotyping what mechanical composition did for typesetting. It sets a new standard of speed, quality and all-round efficiency.

With doubled rotary press speeds it becomes essential to use better plates. Moulding practice has failed to keep step with later-day improvements in rotary press design, but Lake Erie's DIRECTOMAT is now ready to fill the want. It produces better and sharper mats than can be obtained by matrix rollers. Particularly picture pages and display advertising show a marked improvement.

The DIRECTOMAT has the capacity of TWO matrix rollers, while requiring the space of only ONE roller. It is suitable for both hot and cold moulding and equipped with automatic pressure control, steam-electric heating, suction device, form sliding plate, and a host of other exclusive features.

The DIRECTOMAT may now be seen in operation in NEW YORK, CHICAGO, MONTREAL, PHILADELPHIA, DALLAS, RUTHERFORD, N. J., BINGHAMTON and BUFFALO, and very shortly also in MILWAUKEE, KANSAS CITY, CINCINNATI, DETROIT and SAN FRANCISCO.

Lake Erie Stereotype Equipment Company

Division of Lake Erie Engineering Corporation, Buffalo, N. Y.

KENMORE STATION, BUFFALO, N. Y.

Selling Agents:

Flexideal Dry Mat Company - 21 West Street, New York
Stahl Newspaper Supply Company, Inc., - - Los Angeles
Russell Products Company, - 810 Sansom Street, Philadelphia
American Publishers Supply - - - West Lynn, Mass.
Toronto Type Foundry Company, Ltd. - - Toronto, Canada

New Things

For Printer Announced By Makers

By STAFF WRITER

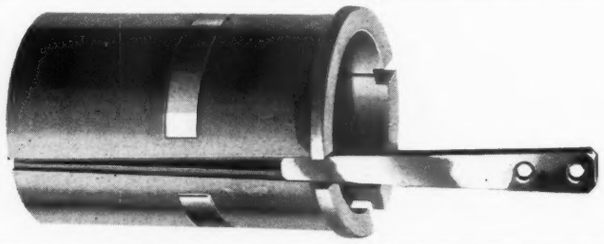
Slide Rule for Printers

John F. O'Sullivan, the nationally-known typesetting machine expert, has made available to printers a new Slide Rule for space and copy-fitting. The Rule is accompanied by a complete Manual of Instructions, which gives the kind of information needed in daily work. The printer, whether in the front office or in the back shop, needs mathematics to solve technical problems, to speed up and check up on his own work and also on the work of others. With the Slide Rule, short-cut method, hours of time are saved and the printer is made much more valuable to himself and his job. Further information can be obtained by writing to the O'Sullivan Linotype Composition Co., 47 West Street, New York, New York.

Newsprint Core Adapter

An Expansion Core Adaptor for use in connection with non-returnable paper roll cores of newsprint standard paper rolls has been announced by the Cline Electric Mfg. Co. It is called the Cline-Taylor Adapter and consists of two halves of a cylinder hinged at one side. It is provided with guides on the opposite side into which a key may be inserted. As is shown in the illustration, the key expands the cylinder to proper external diameter to fit the core. The internal diameter of the adapter will then be suitable for standard spindles and chucks.

The adapter is of such design that the paper can be unwound in either direction. These adapters can be used



with non-returnable cores when used in connection with standard spindles which are mounted on press brackets, or can be used in connection with standard reels.

As will be obvious, after all the paper has been run off the core, the adapter may be removed easily after first withdrawing the key. The non-returnable core is then disposed of and the adapter used in other rolls.

Non-returnable cores are made of substantial tubes with ¼ in. walls and are 3½ in. inside diam. A metal disk is inserted in each end of the core to protect the core end during shipment of the roll. When the roll is ready to be spindled for use with paper roll arm on decker type presses, or chucked in a reel for low constructed unit type presses, the metal disks can be removed easily and discarded. A roll adapter is inserted in the core with one movement of the wedge, after which the roll is spindled or chucked in the usual manner.

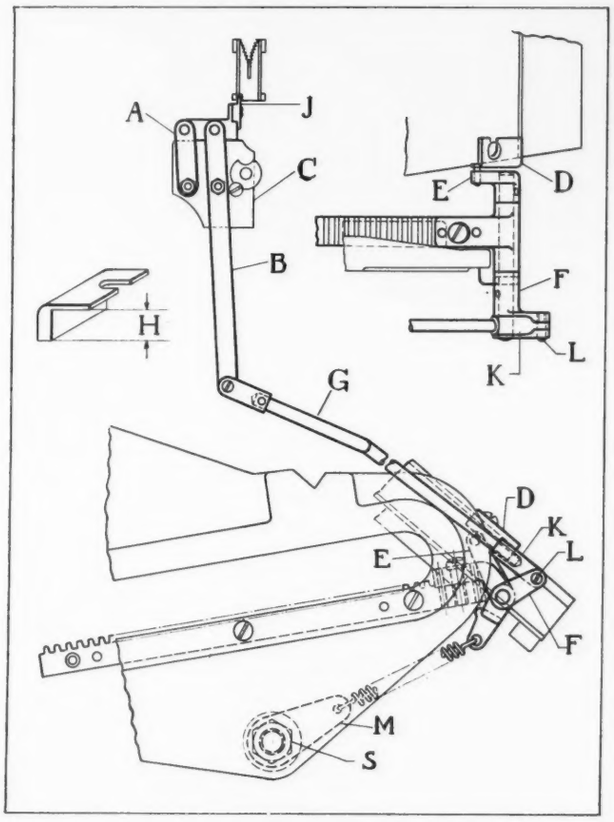
The manufacturer asserts there is a definite saving of 11c per ton of paper between the cost of returnable and non-

returnable cores. This estimate, however, does not include handling charges, shrinkage due to damaged cores, etc.

Further information will be furnished gladly by addressing the Cline Electric Mfg. Co. in care of *Printing* EQUIPMENT *Engineer.*

New Font Distinguisher

Among the latest developments announced by Intertype Corporation is a new Font Distinguisher which, it is claimed, is fully automatic. Whenever a magazine is changed the Font Distinguisher adjusts itself to the point size of the matrices in the magazine without any attention from the operator. Each magazine is equipped with a shoe or gauge



Operation of the new Intertype Font Distinguisher is explained as follows: Levers *A* and *B* are mounted on plate *C* in exactly the same manner as on the ordinary font distinguisher. Shoe *D* is mounted under the head of the magazine screw and depresses lever *E* which motion is transmitted to lever *F* and rod *G*. The dimention *H* of the shoe *D* determines the setting of the Font Distinguisher Finger *J*.

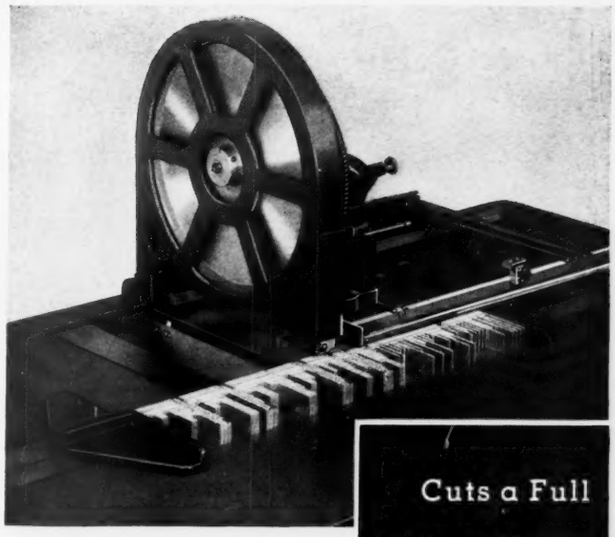
Initial adjustment of the Font Distinguisher (that is, the adjustment which must be made so that all of the settings will take place automatically whenever a magazine is shifted) is made through the medium of connection *K*. If a 10-point shoe is mounted on the magazine, place a 10-point matrix in the Distributor Box, remove screw *L* and turn connection *K* until finger *J* is central with the font slot in the bottom of the matrix when screw *L* is replaced.

Spring Plate *M* is mounted under the head of screw *S*. The spring attached to plate *M* and lever *F* automatically keeps lever *E* in contact with shoe *D* to determine the point setting of distinguisher finger *J*.

which, when the magazine is placed in operating position, actuates a rocker arm and a rod extending up to the distinguisher finger in the distributor box, thus setting the finger at the required point to permit matrices to pass freely from the second elevator bar into the distributor box.

It is explained that the operating shoe is easily fastened to the magazine under the head of the magazine plate screw at the lower left corner. There are six different sizes of shoes, one for each group of point size.

This device is furnished as standard equipment on the Model H Intertype; can be applied to certain other models.



Cuts a Full Galley of Slugs in 35 Seconds

MORE than that! The Rouse Band Saw AUTOMATICALLY selects slug lengths, and cuts accurately to a designated measure without changing saw gauge and clamp.

No tedious setting of gauge . . . No laborious cutting a few slugs at a time . . . No machine delays . . . No bottleneck at the saw.

The Rouse Band Saw takes the slugs as they come, any measure, a galley at a time and cuts them to VARIABLE length as if by magic.

The Rouse Band Saw is designed for high-speed, accurate performance. It is a production machine, simply and sturdily built to do its work well. It is essential equipment in ad composition and catalog production plants, where slug length changes are frequent.

The Rouse Band Saw is easy to install. No expensive linotype changes are necessary. There are two sizes. Write for prices and circulars or mail the coupon.

Rouse Band Saw

H. B. ROUSE & CO.

2216 Ward Street Chicago, Ill.

Please mail prices and complete information on the Rouse Band Saw.

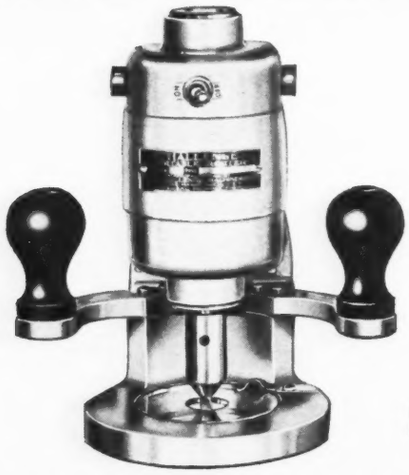
Name_____

Address_____

LOOK...

Here's the new and improved

CHALLENGE Portable **ROUTER**

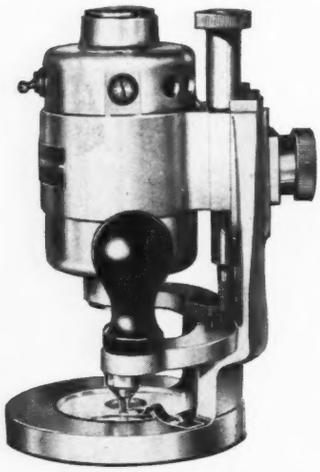


Patented.
No. 1,958,793

A GREATER VALUE-

than ever before—Pays for itself!

Advanced in design—improved in convenience—and built to reduce job ticket costs, this new Challenge Portable Router is the answer to scores of pressroom problems. It enables you to do all the work in your own shop . . . eliminates delays in make-up and make-ready . . . takes care of troubles that often arise after the job is on the press. Plugs into a light socket.



Advanced Features

SAVE TIME —— INSURE ACCURACY

Note the one-point control for setting the router tool. Just turn the screw at the top, and you raise or lower the bit. No chance to tilt the unit; it always cuts square with the work. Once it's set, the lock screw at the back securely holds the motor in the groove. Two convenient handles provide for easier, more accurate handling of the router. Mail the coupon below for full details NOW!

THE CHALLENGE MACHINERY CO.

GRAND HAVEN, MICHIGAN

CHICAGO, 17-19 E. AUSTIN AVE. S-163 200 HUDSON ST., NEW YORK

The Challenge Machinery Company, Grand Haven, Mich.

Please send complete data, specifications, and prices of the new Challenge Portable Router.

Name _____

Full Address _____

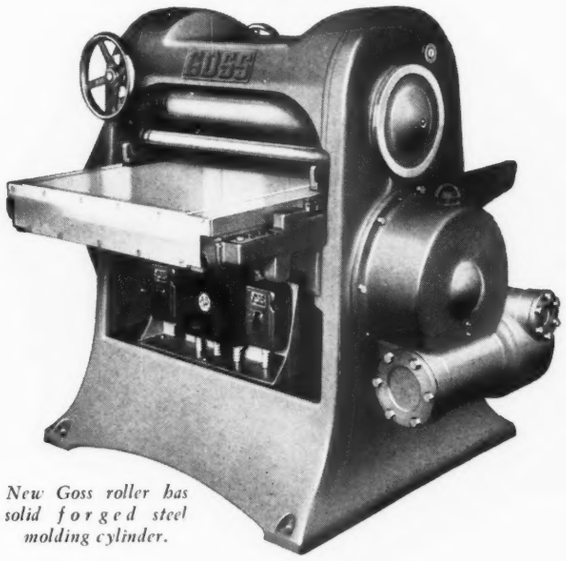
_____

Goss 45S Mat Roller

Throughout the newspaper and allied industries there has been a growing demand for finer reproductive values in dry mats. To attain this end, greater depth and less stretch is necessary in molding. The primary problem of stereotype equipment manufacturers has been to produce mat rolling machines of increased strength throughout the entire construction and to develop a variable cylinder speed that would conform with the combined characteristics of form, mat and blanket.

In view of these requirements, the new Goss 45S Matrix Roller has been built exceptionally heavy. The machine weighs 9,500 lbs. The cylinders are of solid forged steel to provide against bowing when on the form, which condition would result in an uneven impression on the mat.

To provide speed and retain the operating principles of direct pressure machines, the Goss 45S mat roller cylinders



New Goss roller has solid forged steel molding cylinder.

are 12 in. diam. The use of larger cylinders is a benefit in that the curvature of the molding surface is flatter. Consequently, a greater proportion of its molding pressure is exerted vertical to the form. This reduces side pressure on the type and the tendency of the mat to creep. Likewise, the moulded depth of the mat is improved.

Mat creeping, it is claimed, is still further averted by using a flexible drive to rotate the molding cylinder. The cylinder begins to turn when the machine is started, but when the form engages the cylinder, the cylinder speed is governed entirely by the combined characteristics of the kind of form being molded, the moisture content and density of the mat, and the kind of molding blanket.

In addition to reducing creep, this flexible drive provides the advantage of reducing strain on the various drive parts. No chain or belt is used on the motor drive. Instead, the motor is directly connected to a double reduction worm. This feature and the fact that the drive gears run in a grease tight guard, supplying constant lubrication and protection from dust, plus the use of anti-friction ball or roller bearings throughout the drive, result in a quiet running machine.

Convenient control is provided by electric push button stations at each end, located so as to be visible to the operator in his normal position.

The Goss 45S Matrix Roller is designed for plants which do not require production capacity of the Goss Giant Matrix Rolling Machine. Further information may be obtained by addressing the Goss Printing Press Co., in care of *Printing* EQUIPMENT *Engineer.*

Slotting Attachment

With the addition of a V-slot adjustment, the Challenge Slotting Attachment for the Challenge Paper Drilling Machine enables the user to produce four different types of slotted holes. This one attachment, which can be installed or removed quickly from the machine, will slot holes of two

different widths, slit holes and also V-slot holes. The four types are shown in the accompanying illustration.

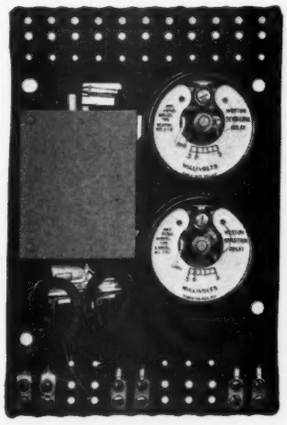
Slotting can be done on the Challenge Paper Drilling Machine by the use of this attachment without any change in the side guide or back gauge set-up. Once the machine is set up to drill round holes, the register is not disturbed by attaching the slotting device.

The Challenge Slotting Attachment is easy to install, there being only three parts. The operator can change from drill to slotter and slotter to drill in less than three minutes. The pressure foot of the drill is detachable from the column, and the Slotting Attachment fits in its place. A clean, sharp cut is produced with a minimum of effort.

A groove in the auxiliary back-gauge guides the special alloy steel knife, which can be removed easily. Additional information is available on request to The Challenge Machinery Co., or through *Printing* EQUIPMENT *Engineer.*

Illumination Control

A new Photronic electric-eye control which turns lights on and off automatically to maintain a predetermined level of adequate illumination in printing plants has been announced by the Weston Electrical Instrument Company. The desired "turn-on" and "turn-off" illumination values are set in advance on two independent scales, and at these values the Photronic Cell actuates a relay controlling the light circuit through a mercury switch.



The Model 709 control is particularly applicable to industrial interiors. Recent tests have shown the great extent to which production efficiency is influenced by adequate illumination, and the "electric eye" removes the human factor of judgment as to when the light from the windows has fallen below this point. In addition, it turns off lights which might otherwise burn for a considerable length of time after the external light source has increased to an adequate value. The circuit is so designed that momentary shadows do not affect the automatic control.

For indoor use, the light collector containing the Electric Eye is directed at the location where illumination is to be maintained, and the electric impulse it sets up is carried by ordinary leads to the panel containing the relay and switch. Both the light collector and panel are also available in weatherproof housing for outdoor use controlling yard lights, electric signs and the like.

Further information cheerfully furnished by addressing Weston Electrical Instrument Co. in care of *Printing* EQUIPMENT *Engineer.*

BURGESS CHROME MATS

Laboratory Research Developed

BURGESS CHROME MATS

What does mat shrinkage cost you in advertising lineage per year?

Whatever the cost, Burgess Chrome Mats will reduce it.

Our service man will be glad to call and show you actual proof.

BURGESS CELLULOSE COMPANY
FREEPORT, ILLINOIS

CHROME MATS
A Laboratory Product
A 215

Pacific Coast Representative, RALPH LEBER,
426 Polson Bldg., Seattle, Washington

BURGESS CHROME MATS

BURGESS CHROME MATS

BURGESS CHROME MATS

PUNCH modern style

PUNCH—in this manner —is delivered by Karnak Black Condensed, the newest of Ludlow typefaces, shown herewith.

In advertising display Karnak Black Condensed will tell a story so emphatic that it cannot be denied, and within a measure that would forbid the use of the average black typefaces.

Available in sizes from 14 to 72 point.
Specimen sheets gladly sent on request.

LUDLOW
TYPOGRAPH COMPANY
2032 Clybourn Avenue, Chicago, Ill.

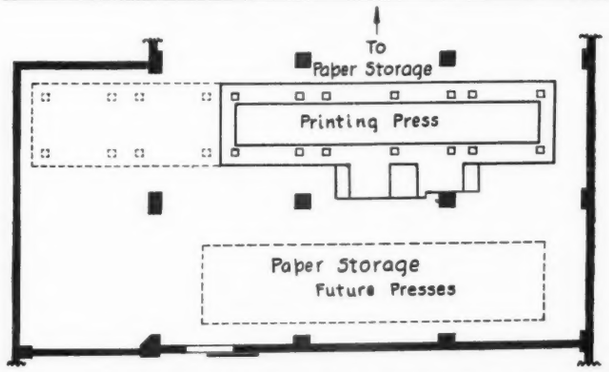
New Plant

(Continued from page 14)

of a compact manufacturing unit. The photographic studios and dark rooms are also situated on the second floor and have direct access to the editorial department which will prove a great convenience.

All of these departments have large windows on every side of the building and will have natural light for the greater part of the day. Particular attention was paid to the height of the floors, ventilation, air conditioning, refrigerated drinking units and each space was designed to encourage isolation of the various departments as well as proximity between the departments which should have contact with one another.

The basement was made a good deal larger than the other floors of the building thus giving ample space for the storage



Pressroom layout in the plant of the Washington Daily News. *The equipment consists of one 5-unit type Hoe Press with 80-page capacity or 160 pages tabloid size. Two Reliance Motors of 125 h. p. each, furnish motive power for the presses. One of the moters will drive the presses while the other is held in reserve although both motors can be operated simultaneously.*

Cutler-Hammer Conveyors deliver the papers to the mailing room.

In addition to the regular paper storage room indicated in the diagram, the space intended for future press installations is being used for auxiliary paper storage purposes.

of newsprint so that a reserve supply of paper might be available at all times.

In the design of the building there was also a departure from the usual factory type structure and the design finally decided upon gave the building the attribute of beauty as well as of utility. In addition to the expansion possibilities of the pressroom and other departments, the building was designed to carry an additional floor having an area of about 11,000 square feet which would take care of any normal expansion for a number of years to come.

Thanks, Mr. Rosenberger

PRINTING EQUIPMENT ENGINEER,
Cleveland, Ohio.

Gentlemen:

We appreciate your magazine very much and look forward to receiving each issue as we find it very interesting and instructive.

LEO N. ROSENBERGER, *Machinist*,
Clinton *Herald*,
Clinton, Iowa.

In the foreground is shown part of the stereotype department and in the rear a section of the composing room of the Washington (D. C.) Daily News. *Kemp Immersion System of metal melting is used in the Autoplate and the flat-casting pot. In the composing room, in addition to the Intertype equipment, will be found two Monotype strip-material casters, four Ludlow machines, a Rouse band saw, two Miller saw-trimmers, Wesel heavy-duty electric proof press, Vandercook electric proof and hand proof presses, Klean-o-Mat matrix-washing system, and Berry-Mingle ad and makeup banks furnished by the Berry-Mingle Company, New York, New York.*

Develops New Ink

A new rotogravure ink having a number of radically different features from inks previously used has been developed by the In-Tag Company, division of International Printing Ink Corporation, says *American Ink Maker,* for use with the new Speedry enclosed ink fountain on rotogravure presses. The adoption of the enclosed fountain entirely changed the nature of the ink which could be used, making it possible to employ materials which dry much more quickly than those formerly in use. It is said that with these changes an ink has been secured which dries so quickly that a drop evaporates in a fall from arm height to the floor.

The process and patents on the new ink fountain, the invention of Adolph Weiss, have been acquired by Alco Gravure, Inc., and a new company, the Speedry Gravure Corporation, has been organized to introduce and develop the new fountain. It is anticipated that with the new process available, many of the country's newspapers and magazines may turn to gravure printing. The outstanding advantages are speed and uniformity of color. As to speed, a record of as high as 20,000 eight-page, four-color newspaper supplements per hour has been reached.

The ability of the Speedry fountain to maintain uniformity of color from the beginning to the end of the run is based on the fact that evaporation of the ink is held to a minimum as a result of enclosure of the fountain. The ink is in constant motion and no additions are required, such as the repeated replacement of basic Xylol in open fountain gravure work to compensate for solvent loss. Thus the tendency of the ink to change color is avoided.

The Speedry fountain is entirely closed except for the slit through which the ink is applied to the roll. Motor driven pumps beside the presses keep the ink constantly circulating under pressure. When more is needed, it can be drawn from closed barrels without changing the mixture in the fountain or stopping the press.

Named Local Manager

E. C. Raasch has been appointed local manager of the Milwaukee branch of the American Type Founders Sales Corporation, under the general direction of Manager Hicks of the Chicago branch of the same concern.

EDES PHOTO-ENGRAVING

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Thompson-Hayward Chemical Co., 2228 Blake St., Denver, Colo.
Thompson-Hayward Chemical Co., 909-2nd St. So., Minneapolis, Minn.
Metzger Photo Supply Co., 1091 So. Main St., Akron, Ohio
G. C. Dom Supply Co., 125 East Pearl St., Cincinnati, Ohio

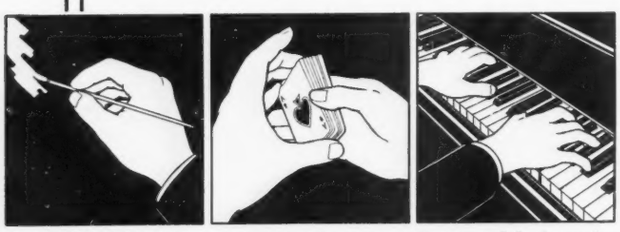
This photograph is reproduced through the courtesy of the Hershey Chocolate Corporation, whose "Mild and Mellow" bar wraps are printed on Kidder "Three-Point" Presses.

HERSHEY CHOCOLATE WRAPS
are Printed on "3-Point" Presses

. . . . . you, too, can get
PROPER DISTRIBUTION OF INK
with Kidder Engineering

It requires feather-touch control of the ink distribution to get the delicate colors of the "Mild and Mellow" bar wrap. Ink distribution on the Kidder Press is easily regulated through a patented form roller setting device which eliminates roller gauges and bumping.

For a detailed description of the device, write our engineering department at Dover, New Hampshire, or call our nearest branch office. And while about it, why not get information about the other new Kidder developments for printing on all kinds of packaging materials as well as turning out the finest catalogs, magazines, etc.?



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COMPANY *Incorporated*
PRINTING MACHINERY

DOVER, N.H. NEW YORK CHICAGO TORONTO

One and Two-Sheet Rotaries . . . All Size Adjustables . . . Automatic Bed and Platen Presses . . . Golden Arrow Straight-Line Bronzer . . . Multi-Color Web Presses . . . Slitters and Rewinders . . . Chapman Electric Neutralizer . . . Special Printing Machinery of All Kinds. 970

Patents

Continue in Range and Variety

FEBRUARY-MARCH

Bookbinding:

1,990,958. TYPE HOLDER AND BLOCK FOR THE SAME. Edward Roberts, Jr., Hohokus, N. J., assignor to Roberts, Cushman & Company, New York, N. Y., a corporation of New York. Application August 31, 1933. Serial No. 687,667. 1 Claim. (Cl. 101 — 31.)

A thermostatically controlled type holder comprising a metallic body provided with a longitudinal groove for holding type, one edge of the type groove being an enlarged abutment having a cross-section sufficiently large to conduct heat to the type and to accommodate a thermostatic control device, a thermostatic device accommodated and enclosed within the abutment, and an electrical heating element accommodated within the metallic body in spaced parallel relation with the type groove and the thermostatic device; the heating element being adapted to furnish heat by conduction to the type and to the thermostatic device and being positioned at a point such that the thermal conductivity from the heater to the thermostat is substantially equal to that from the heater to the type, whereby the temperature of the type can be controlled within a range of not over two degrees Fahrenheit.

1,991,608. METHOD OF BINDING BOOKS. Philip A. Frazier, Oak Park, Ill. Application July 15, 1932. Serial No. 622,762. 1 Claim. (Cl. 281 — 29.)

The method of binding a book that comprises the steps of gluing coverboards to opposite sections of a case covering material, gluing a super to the adjacent edges of the coverboards and to that section of the covering material intermediate the cover boards, affixing end sheets to the inner faces of the coverboards and over that portion of the edges of the super that are glued to the coverboards, drying the glue while the case is in an open position, and then gluing to the super a group of signatures.

1,991,662. BOOKBINDING AND MEANS FOR BINDING BOOKS. Emma Jane Crone, Marathon, Iowa. Application April 19, 1934. Serial No. 721,343. 4 Claims. (Cl. 281 — 23.)

4. In combination with the contents of a book and the cover, a layer or layers of adhesive-repellent material, stitched or otherwise fastened between the binding materials to the utilized in fastening the contents of the book into its cover through the application of an adhesive to such binding materials, such layer or layers of adhesive-repellent material being utilized for the purpose of preventing the adhesion of the cover and the contents of the book at any other places than those where it has been designed that the cover and the contents of the book shall be fastened together.

Composing Machinery:

1,993,985. MOUTHPIECE WIPER. Ramon Zuazua, Brooklyn, N. Y. Application August 9, 1932. Serial No. 628,035. 2 Claims. (Cl. 199 — 62.)

1. In a typographical line-casting machine, a mouthpiece wiper blade adapted to swing in a vertical plane about a pivotal shaft, a curved arm on the inner end of the pivotal shaft connected at its other end to the wiper blade, an extensible stud mounted on the top of the curved arm and at its other end connected by a friction joint to an arm having an operating roller for engagement with a space band lever for operating the wiper downwardly and a spring for operating the wiper upwardly.

1,992,918. MOLD WHEEL ADJUSTING DEVICE. Einar G. Klingberg, Long Island City, N. Y., assignor to Intertype Corporation, Brooklyn, N. Y. a corporation of New York. Application June 25, 1934. Serial No. 732,317. In Germany March 17, 1934. 8 Claims. (Cl. 199 — 48.)

1. In or for a line casting machine, a rotatable mold carrier having teeth thereon for rotating it, a cooperative pinion, and a driving shaft having means for coupling and uncoupling the pinion with respect thereto, the pinion having a toothed portion engageable with the teeth on the mold carrier to rotate it and having an untoothed portion to permit the mold carrier to stand idle during part of each complete rotation of the pinion while uncoupled from its shaft.

1,992,811. MANUFACTURE OF CAST TYPE BARS. Modeste Ceuppens, Brussels, Belgium, assignor to Linotype and Machinery Limited, London, England, a British company. Application September 16, 1933. Serial No. 689,714. In Great Britain September 23, 1932. 6 Claims. (Cl. 199 — 66.)

1. In or for a typographical composing and line-casting machine adapted to produce slugs with type characters overhanging the slug bodies, a matrix for casting a character having no ascender, characterized by the recess which is provided with the character-forming surface being widened at the side adjacent to the top of the character to the same extent as the recesses in a matrix for casting a character having an ascender so as to produce a metal fillet which extends more or less across the top of the slug and unites together the overhanging and body portions of the slug.

Feeding and Folding:

1,990,495. FOLDING MACHINE. William Jonathan Neidig, Chicago, Ill. Application June 20, 1932. Serial No. 618,131. 31 Claims. (Cl. 270 — 85.)

1. In a folding machine, in combination: means adapted to make a fold in a cut sheet of paper, including folding members and a follow-through blade, the blade adapted to strike a sheet between the members in a fold and thereafter through an engagement inside the fold to advance it into a plurality of operative positions variably affecting its next stage folding; and next-stage folding means adapted to fold the sheet when in one of the operative positions.

1,991,003. METHOD OF AND MEANS FOR FEEDING SHEETS. Burt D. Stevens, Evanston, Ill., assignor to The Miehle Printing Press & Mfg. Company, Chicago, Ill., a corporation of Illinois. Application February 6, 1931. Serial No. 513,805. 33 Claims. (Cl. 271 — 53.)

1. In a printing press, rotary sheet transfer elements including sheet slow-down means adapted to engage the leading edge of a moving sheet and to decelerate same before the sheet is brought to register at rest.

1,994,042. SHEET FEEDING MECHANISM FOR PRINTING MACHINES. William K. Eckhard, Dunellen, N. J., assignor to Irving Trust Company, permanent trustee of R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application March 17, 1933. Serial No. 661,203. 22 Claims. (Cl. 271 — 46.)

1. In a printing machine adapted to convey a sheet over a supporting surface, a sheet decelerator, a sheet detector, a sheet registering mechanism, independent shafts for the decelerator, detector and registering mechanism, and a frame supporting the shafts with their axes in fixed relation to one another, the frame being adjustably attached to the printing machine and adapted to support the decelerator at a plane substantially below the level of the supporting surface.

Miscellaneous:

1,991,423. LABEL CUTTING AND FOLDING MECHANISM. Carl W. Shaver, Grand Rapids, Mich., assignor to The Rose Patch & Label Company, Grand Rapids, Mich. Application February 15, 1934. Serial No. 711,395. 13 Claims. (Cl. 164 — 42.)

1. In an apparatus the combination of a cutting and folding machine, driving means for the machine, a clutch between the driving means and the machine, and a solenoid-operated clutch release, pull-back means for a label strip, a cam shaft and a cam to operate the pu

back, a photo-electric cell positioned to be exposed to the label strip, a light on the opposite side of the label strip from the photo-electric cell, a solenoid operated release for the pull back controlled by the photo-electric cell, a switch controlling the light, a cam on the shaft controlling the switch to close it throughout the pull-back movement, whereby the photo-electric cell is illuminated during the pull-back to render it operative, a first relay controlled by the circuit of the solenoid pull back release, a second relay controlled by the circuit of the light and having its switch in parallel with the switch of the first relay, the relay switches being held open when their respective control circuits are energized, a switch in series with the relay switches to form a circuit controlling the solenoid of the clutch release, a cam on the shaft to close the switch momentarily at the end of the pull-back movement, whereby if the light circuit or the solenoid pull-back release circuit is not energized, the circuit of the clutch release mechanism is closed to throw out the clutch.

1,991,431. PAPER CUTTING MACHINE. Ralph S. Tyler, Cleveland Heights, Ohio, assignor to The Chandler & Price Company, Cleveland, Ohio, a corporation of Ohio. Application January 15, 1932. Serial No. 586,714. 3 Claims. (Cl. 164 — 59.)

1. A back gauge for paper-cutting machines and the like, comprising a gauge section, a carriage for supporting the rear end of the gauge section tiltable about its front lower edge and provided with rollers for facilitating sliding of the gauge section, transversely spaced means for moving the gauge section with respect to the carriage to thereby tilte the gauge and means for locking the gauge section to the carriage after the tilting movement.

1,992,869. SELECTOR FOR PRINTING MACHINES. Joseph Krell, Berlin-Zehlendorf, Germany. Application November 5, 1931. Serial No. 573,223. In Germany November 15, 1930. 3 Claims. (Cl. 101 — 58.)

3. In a selector for printing machines, movable printing control means, an operating circuit for the machine, photo-electric cells connected to the circuit so as to make it when excited, means for connecting the cells to the circuit in various positions, a source of light, and light-controlling means on the control means for making and breaking the optical connection of the source and the cells.

1,993,362. METHOD OF REMOVING INK FROM AND BLEACHING PRINTED PAPER. Walter S. Crisp, Fulton, N. Y., assignor to William J. Weir, Syracuse, N. Y. No Drawing. Application July 22, 1933. Serial No. 681,804. 19 Claims. (Cl. 92 — 13.)

1. The process of de-inking paper stock which comprises subjecting a suspension of the stock to the action of an alkali, pyridine and pine oil.

1,994,432. RULE FORM. Howard D. Mosher, Chicago, Ill., assignor of one-half to Alex A. Anderskow, Chicago, Ill. Application October 11, 1934. Serial No. 747,813. 2 Claims. (Cl. 101 — 400.)

1. A rule form comprising abutting and abutted rules having plane ends and side walls and beveled upper portions providing line printing edges, the ends of the abutting rules having projections at the beveled portions for extending the printing edges into juncture with the printing edge of the abutted rules, the projections having lower surfaces disposed at angles corresponding to the angles of the contiguous beveled surface of the abutted rule and adapted to contact therewith to support the projections throughout its length, and means disposed between adjacent rules for holding the same in spaced relation.

Offset-Lith:

19,489 (Reissue). MERCURY PRINTING APPARATUS AND PROCESS. Arlington W. Stephenson, San Francisco, Calif., assignor, by mesne assignments, to The Fax Company, San Francisco, Calif., a corporation of California. Original No. 1,854,719, dated April 19, 1932. Serial No. 491,448, October 27, 1930. Application for reissue April 18, 1934. Serial No. 721,243. 12 Claims. (Cl. 101 — 147.)

1. In a printing press provided with inking rolls, means for feeding mercury to the rolls preparatory to inking the form and means for operating the mercury feeding means independently of the ink supply.

1,991,962. DAMPENING DEVICE FOR LITHOGRAPHIC OFFSET PRESSES AND THE LIKE. Joseph Schultz, Cleveland, Ohio. Application August 17, 1929. Serial No. 386,573. 38 Claims. (Cl. 101 — 148.)

1. A dampening device for a lithographic press, comprising a roller mounted on a horizontal axis, a plurality of liquid supply devices, a plurality of liquid distributing elements each adapted to directly independently and uniformly distribute the liquid over a section of the periphery of the roller above the axis of the roller, and means for controlling the amount of liquid distributed by each of the elements.

1,992,771. METHOD OF PREPARING INTAGLIO LITHOGRAPHIC PLATES FROM ORIGINAL PLATES AND TRANSFERS. Robert F. Reed, Paul W. Dorst, and Anthony George, Cincinnati, Ohio, assignors to The Lithographic Technical Foundation, Inc., New York, N. Y., a corporation of Delaware. Application November 28, 1933. Serial No. 700,114. 8 Claims. (Cl. 41 — 41.5.)

4. A process of preparing deep-etched or intaglio lithographic plates from original plates or transfers in which the following steps are used: dusting the inked design to render it wettable by the bichromate-colloid coating solution; coating the entire surface with a bichromate-colloid solution containing more than 12 grams of solids per 100 cc. of solution; exposing the bichromate-colloid coating to light for two or more times the time necessary to insolubilize the coating removing the light-hardened colloid coating from the design area; and after etching and inking the design, removing the bichromate-colloid coating with a solution containing a mixture of an alkaline earth hydroxide and an alkaline earth chloride.

1,992,965. METHOD OF PRESERVING COLLOID FILMS. George S. Rowell, Cleveland, Ohio, assignor to Multigraph Company, Wilmington, Del., a corporation of Delaware. Application September 19, 1932. Serial No. 633,823. 8 Claims. (Cl. 95 — 8.)

1. A method of preserving actinically sensitive chromated colloid films, comprising as steps treating the freshly dried film with a coating of water insoluble but water permeable waxy material and drying the same.

1,992,966. DAMPENING METHOD AND MEANS FOR PLANOGRAPHIC PRINTING. George S. Rowell, Cleveland, Ohio, assignor to Multigraph Company, Wilmington, Del., a corporation of Delaware. Application September 19, 1932. Serial No. 633,824. 12 Claims. (Cl. 101 — 147.)

1. Method of dampening planographic image-bearing printing plates and like surfaces, comprising the step of applying a thixotropic gel thereto.

1,994,289. PHOTOGRAPHIC PROCESS EMPLOYING BICHROMATED COLLOIDS. Frank William Sharp, London, England, assignor to The Autotype Company Limited, London, England, a company of Great Britatin. No Drawing. Application December 16, 1933. Serial No. 702,787. In Great Britain March 4, 1933. 10 Claims. (Cl. 95 — 7.)

1. A method of producing colloidal-base films which can be rendered light-sensitive by treatment with a solution of a biehromate, consisting in introducing into a colloidal base a soluble metal salt selected from the group consisting of copper, cobalt, nickel, and the rare earths and drying the colloidal base while in an unsensitized state.

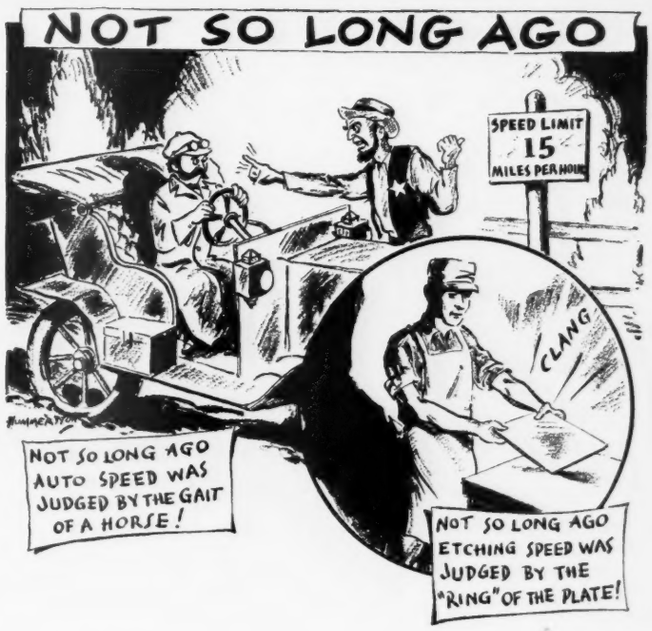
Plate-Making Equipment:

1,991,009. PRINTING PLATE AND METHOD FOR FORMING THE SAME. Theodore C. Browne, Hinsdale, Ill., and Alfred C. Buttfield, North Plainfield, N. J. Application June 24, 1931. Serial No. 546,456. 12 Claims. (Cl. 18 — 59.)

6. In a process for forming rubber printing plates, the steps which include forming a water absorptive mould having a coagulating agent for latex incorporated therein, and then collecting and coagulating upon the mould a layer of rubber by exposing the surface of the mould to a bath of compounded latex.

1,991,697. PROCESS OF ETCHING. Frank T. Powers, Douglaston, N. Y. Application November 11, 1931. Serial No. 574,322. 3 Claims. (Cl. 41 — 43.)

1. The method of applying ink to the surface of a partially etched photomechanical printing plate during the process of etching the plate, which consists in first applying a thin, even coating of the ink to a substantially truly plane, hard, non-yielding surface, and then pressing into intimate contact with the inked surface the partially etched surface of the printing plate, thereby transferring to the printing plate a layer of ink and thereby squeezing out a portion of the ink from between the surfaces in contact to the shoulders of the etched

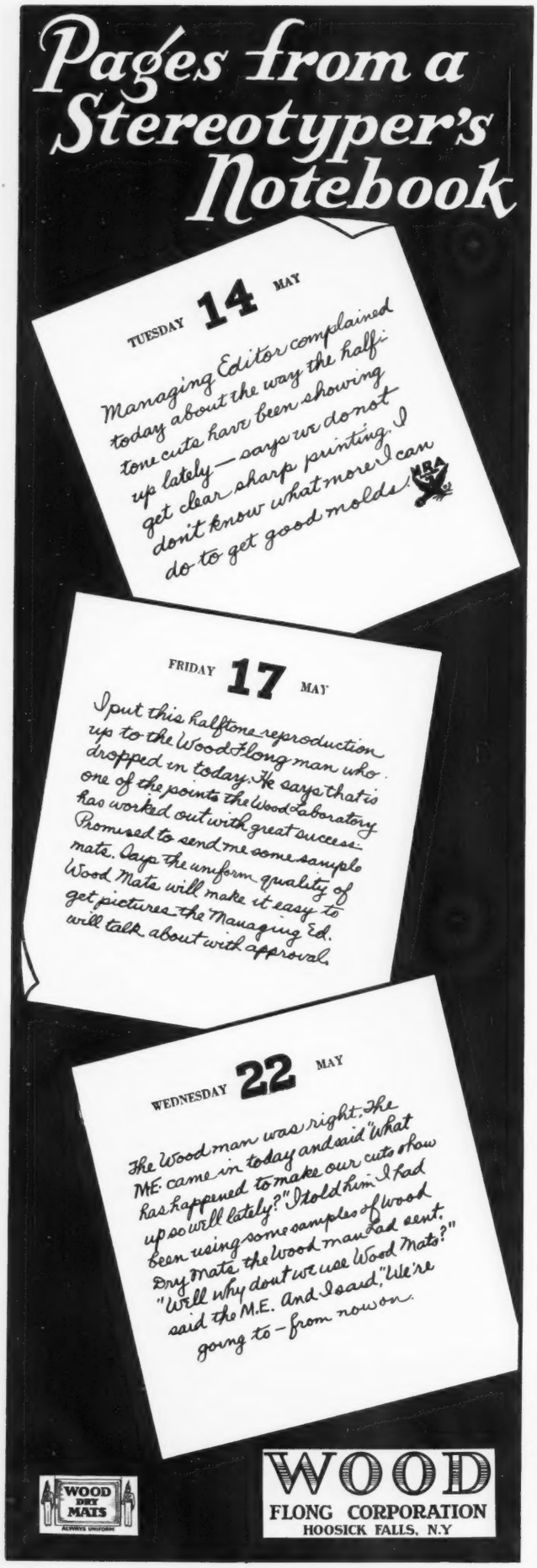

NOT SO LONG AGO
SPEED LIMIT
15
MILES PER HOUR
CLANG
NOT SO LONG AGO AUTO SPEED WAS JUDGED BY THE GAIT OF A HORSE!
NOT SO LONG AGO ETCHING SPEED WAS JUDGED BY THE "RING" OF THE PLATE!

NOT so long ago, no engraver knew what he was up against when he tackled a zinc sheet. If a metal "rang" when tapped, it was considered a hard metal, and therefore slow to etch.

Today, it is no longer necessary to rely on such old-fashioned testing customs. Modern engravers requiring a resisting metal for heavy mat work and long, direct printing runs simply specify A-Z Alloy. This is a tough metal, the uniformity of which is assured by the electric induction process. At the same time, A-Z Alloy etches as fast and clean as the standard Zomo Electric Zinc.

Today, you can conveniently order both these metals from any of the following: Rolled Plate Metal Co., National Steel & Copper Plate Co., Pacific Steel & Copper Plate Co., C. G. Hussey & Co., Bridgeport Engravers' Supply Co., American Steel & Copper Plate Co., W. E. Booth Co., Ltd., Canada; Hunter Penrose, Ltd., England.

ZOMO ELECTRIC ZINC
A-Z ELECTRIC ALLOY


Pages from a Stereotyper's Notebook
TUESDAY 14 MAY
Managing Editor complained today about the way the halftone cuts have been showing up lately—says we do not get clear sharp printing. I don't know what more I can do to get good molds!
FRIDAY 17 MAY
I put this halftone reproduction up to the Wood-Flong man who dropped in today. He says that is one of the points the Wood Laboratory has worked out with great success. Promised to send me some sample mats. Says the uniform quality of Wood Mats will make it easy to get pictures the Managing Ed. will talk about with approval.
WEDNESDAY 22 MAY
The Wood man was right. The M.E. came in today and said "What has happened to make our cuts show up so well lately?" I told him I had been using some samples of Wood Dry Mats the Wood man had sent. "Well why don't we use Wood Mats?" said the M.E. And I said, "We're going to—from now on.
WOOD DRY MATS ALWAYS UNIFORM
WOOD
FLONG CORPORATION
HOOSICK FALLS, N.Y

portions of the printing plate, heating the printing plate to melt the surplus ink on the shoulders to protect the shoulders from further etching.

1,994,100. MAT DRIER. Andrew J. Hartley, Janesville, Wis. Application January 16, 1933. Serial No. 652,066. 3 Claims. (Cl. 34 — 16.)

3. A mat drier comprising a convexly curved, mat-supporting surface, a flexible mat-clamping member secured along one side adjacent to the surface, and adapted to reach therefrom over such convexly-curved surface in contact with a mat thereon and having its opposite edge free, when not in clamping position, and means for temporarily securing such free edge against the mat-supporting surface, such securing means including means to exert tension and the flexible member in a direction substantially tangential to such curved surface.

Printing Inks:

1,992,016. PRINTING INK. Adolf Schneider, Jackson Heights, N. Y. No Drawing. Application January 10, 1931. Serial No. 508,007. 3 Claims. (Cl. 134 — 36.)

1. A substantially non-drying printer's ink adapted for thermography, the ink being composed of substantially equal parts by weight of a water insoluble resin as a body and a plasticizer as a base, the plasticizer being of the group consisting of dibutyl phthalate, butyl stearate, diamyl phthalate, tricresyl phosphate, triphenyl phosphate and triacetin.

1,993,404. DRYING OF PRINTING INKS. Frank E. Hartman, Chicago, Ill., assignor of one-third to Fred H. Montgomery and one-third to W. Ray Montgomery, both of Chicago, Ill. Application March 7, 1931. Serial No. 520,891. 1 Claim. (Cl. 101 — 416.)

That improvement in drying ink on a web or sheets passing through a printing press which consists in subjecting air to electric energy in an ozone generator charged with current at approximately 960 cycles per second in order to produce ozone and highly ionized and activated oxygen, and delivering the ozone and highly ionized and activated oxygen to the place where the ink is applied to the web or sheets while the oxygen remains highly activated and ionized, so it will have the action of an oxidant and that of a catalyst.

Printing Presses:

1,990,498. PRINTING MACHINE. Ronald J. Nordquist, Maplewood, N. J., assignor to American Can Company, New York, N. Y., a corporation of New Jersey. Application July 6, 1931. Serial No. 548,944. 27 Claims. (Cl. 101 — 38.)

1. A printing machine for containers comprising in combination, a printer, rotary means having clamping devices and adjacent the printer for holding a container in clamped position and for rotating it in engagement with the printer, and feeding means reciprocating towards and from the clamping devices for presenting a container to the holding means, and means for adjusting the container around its axis before the printing operation.

1,990,643. WEB CONTROLLING MECHANISM. Harland Fankboner, Chicago, Ill., assignor to The Goss Printing Press Company, Chicago, Ill., a corporation of Illinois. Application December 26, 1931. Serial No. 583,271. 9 Claims. (Cl. 242 — 75.)

9. A web roll controlling mechanism including in combination means for rotatably supporting a web roll, a pilot roller adapted to be moved by changes in the tension of the web drawn from the roll, a brake acting on the axial portion of the roll and controlled by the pilot roller and a brake acting on the peripheral portion of the roll and controlled by the pilot roller.

1,991,716. ROTARY PRINTING MACHINE. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Original application May 26, 1926. Serial No. 111,787. Divided and this application April 6, 1929. Serial No. 353,200. 7 Claims. (Cl. 101 — 216.)

1. In a rotary printing press, the combination of impression and plate cylinders, each having ball bearings for the ends of their journals, an eccentric box therefor adjustable circumferentially in the case of one of the cylinders for keeping the journals firmly against the working surface of the box, and a brake cooperating with the journals for bringing the cylinder to a stop whenever desired without depending upon the stopping of the rest of the press.

1,991,989. SHEET SEPARATING DEVICE. Louis Trompier, Villeurbanne, France. Application March 8, 1934. Serial No. 714,587. In Germany March 9, 1933. 3 Claims. (Cl. 271 — 36.)

1. In a sheet separating and feeding device having a feeding and discharging roller adapted to engage against a pile of sheets standing edgewise in an inclined position, a fixed supporting table disposed adjacent to the roller, and an adjustable guide book upon the table supporting the pile of sheets, having one end thereof concave in substantially concentric conformity with the arcuate surface of the roller and spaced an alterable distance therefrom so that a uniform curved delivery channel results between the block and roller, which is adjustable by adjustment of the block upon the table to the thickness of a single sheet intended to pass through the channel.

1,992,542. PRINTING PRESS. August B. Plushkell, Los Angeles, Calif. Application November 7, 1932. Serial No. 641,538. 22 Claims. (Cl. 101 — 287.)

5. In a printing press having a frame and a movable platen, means to shift stock across the platen in cycles of intermittent movements in timed sequence with the impression movements of the press, comprising, in combination: a stockretainer; a carrier for the stock-retainer having a base portion movably mounted on the platen; rack-and-gear mechanism associated with the platen operatively connected to the carrier; a cam-means associated with the platen; linkage operatively connecting the cam-means with the rack-and-gear mechanism; an alternating drive member; ratchet-and-pawl mechanism operatively connecting the drive member with the cam-means; and means interconnecting the frame and the drive member whereby movements of the platen actuate the drive member.

1,993,232. PRINTING PRESS. Harry B. Willett, Indianapolis, Inc. Application August 24, 1933. Serial No. 686,479. 15 Claims. (Cl. 101 — 197.)

1. In a printing press having an oscillating platen, the combination of a guideway movable with the platen, a member movable along the guideway, mechanism connected to the member and operating to move the same in one direction during the movement of the platen to printing position and in the opposite direction during the retraction movement, web engaging members carried by the movable member, and mechanism operating the last mentioned members and moving the same to engage a web of stock during the movement of the movable member in one direction for drawing the web across the platen.

1,993,284. INKING DEVICE. William A. Roehm, Lynbrook, N. Y. Application April 21, 1934. Serial No. 721,673. 6 Claims. (Cl. 101 — 365.)

1. An inking device comprising a frame structure: a pair of co-acting and continuously-rotating rollers forming a trough for holding a quantity of ink; spring-actuated blocks for confining the ink within the trough and for dividing the trough into separate compartments; angular, spring-actuated scrapers associated with the blocks for returning the ink to the trough and its compartments; and a transfer roller, permanently contacting with and rotated by one of the first-mentioned rollers, for transferring the ink from the first-mentioned roller to the printing surface of the press on which the device is employed.

1,993,538. PRINTING PRESS. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a corporation of Virginia. Application June 18, 1931. Serial No. 545,198. Renewed August 2, 1934. 6 Claims. (Cl. 101 — 179.)

2. In a web press, a pair of multiple-impression printing units, a printing couple located between the units, and means for leading a web from the printing couple through either of the units, each of the units being reversible whereby the web may be led in either direction through the units to print either face of the web.

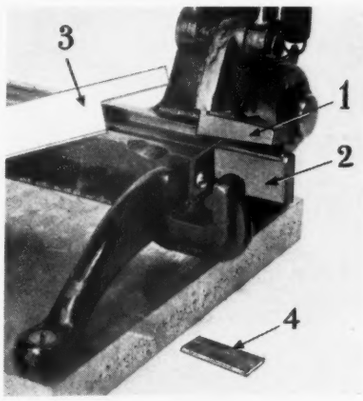
1,993,579. SYNCHRONIZING SYSTEM FOR UNIT-TYPE PRINTING PRESSES. Wilmer L. Wright, Scotia, N. Y., assignor to General Electric Company, a corporation of New York. Application December 2, 1932. Serial No. 645,430. 21 Claims. (Cl. 101 — 220.)

1. In combination, a plurality of printing press units, a plurality of electric motors each connected to drive one of the units, synchronizing means for the units comprising a plurality of alternating current motors each connected to one of the units and having their primary windings connected to a source of alternating voltage of pre-determined frequency and having their secondary windings connected together, and means for supplying an alternating voltage having a frequency different from the predetermined frequency to the secondary windings to provide uniform low threading speed irrespectively of changes in the press torque.

Notching Column Rules

By JOHN B. HOGAN*

At the Cleveland *Press* we use column rules with shanks which fit into corresponding slots in the foot stick of each chase. All of our column rule is cast on Elrod strip material machines. Previous to adopting the device described below it was customary to notch the rules on a jig fitting to the slide of a Miller saw-trimmer. This device was rather slow in operation since it was necessary to remove the gauge from the work table before applying the jig.



View of newspaper column rule notcher described by Mr. Hogan, Composing Room Superintendent, Cleveland Press.

*Superintendent Composing Room, Cleveland *Press*.

It occurred to me that some other device could be employed to do the work as well, if not better and in a shorter time. As a result I provided our Chief Machinist, Al Krueger, with a Rouse lead-and-rule cutter. He designed and applied a pair of knives. The upper knife, *1*, which does the cutting, is held to the cutter bar by two screws. The lower knife, *2*, which is T-shaped as will be seen in the illustration, is fitted with a lip or stop to determine the position of the rule which is about to be notched so that all column rules will be notched alike. The piece which was cut from the column rule *3* is shown at *4*.

The cutter itself is mounted upon a section of stereotype base. The cutter notches rules rapidly and we find it to be a valuable tool.

ATF Changes

Otto E. Zimmer, manager of American Type Founders Sales Corporation Branch at Philadelphia, is now manager of the enlarged Baltimore territory (including former Virginia and North Carolina territory).

Herbert S. Ferguson, who has been Assistant to Manager of ATF Philadelphia Branch succeeded Mr. Zimmer at Philadelphia.

W. Seton Kent, who has been managing both the Baltimore and Washington Branches of ATF, is now devoting his entire time to the Washington Branch operations.

The St. Louis Branch of the American Type Founders Sales Corporation moved on March 20 to newer and much larger quarters at 2135 Pine Street, corner of 22nd Street. Manager E. A. Tracy and staff will remain.

When writing to manufacturers or interviewing their representatives, please mention the advertisement you saw in *Printing* EQUIPMENT *Engineer*

Have you tried

Kork-O-Tan
REG. U. S. PAT. OFF.
BOTTOM PRESS BLANKETS

DISTINCTIONS
RESILIENT—yet firm
TOUGH—yet pliable
OIL-RESISTANT
STRETCHLESS—do not narrow or thin down
EVEN GAUGE THROUGHOUT
LOW FIRST COST
LONG LIFE

Treat yourself to a real trial, on your own presses, of these popular underpackings. PROVE to your own satisfaction their fine printing qualities and economy.

After all—THERE IS NO PROVING GROUND LIKE YOUR OWN PRESSROOM

SATISFACTION GUARANTEED OR YOUR MONEY REFUNDED

BEHR-MANNING ▾ TROY, N. Y.

How to Patch

Shell Casts for Price Additions

By Ty L. Hopgood*

Difficulty is experienced in many composing rooms in the making of corrections and inserting price changes in ads of various sizes which are cast from mats sent out by the advertiser in which spaces for prices, local copy, radio program time changes, and so on, are left blank. The local printer is expected to insert these changes in whatever manner he may choose.

In our composing room we have developed a system of handling all these corrections, be there few or many, which we believe to be excellent because it eliminates false motions and gets the job done with a minimum of elapsed time.

When an ad of this type is sent to the composing room, the mat is marked in red pencil to indicate the places to be mortised out. While the mat is being cast and mortised in the stereotype room, the composing room sets the price changes and other corrections in a size and style to fit the respective mortises in the ad. This type is then read and corrected, after which it is locked up in a regular job chase which we keep for this purpose. Around the form before it is locked up we put bearers, which can be made from any type-high material, so that there will be a place upon which to rest the casting bars. A mat is then made of it and cast in the stereotype room. While this is being done the composing room is making up a solid base to fit the entire ad. When the correction mat is cast, each individual insert is sawed out and merely laid in its respective mortise in the large cast, and as both are shell casts, no building up is needed in either, and to all practical purposes, the form is the same as if the corrections had been made in the large mat at first.

In cases where there are only two or three small changes, and the type can be set on the machine, the slugs are sawed off shell-cast high and laid in the mortise, thus eliminating the rolling and casting operation entirely. In our plant, which by the way is one of the most modern and up-to-date to be found anywhere, we have only two heights of material —type-high and base-high. All spacing material, whether cast-iron base, quads, slugs or leads is the same height to fit 11-point shell casts. Consequently, when a correction cast is inserted in a larger plate it is type-high, irrespective of whether it rests on foundry quads or machine-made slugs cast in our own plant. The operations described above, however, will be equally successful in any plant where the stereotype system is used, even if all equipment is not of the latest type.

*Mechanical Foreman, *Express-Courier*, Fort Collins, Colo.

★ ★ **NEW BOOK**

ANSWERS TYPE ESTIMATING AND COPY FITTING PROBLEMS

A NEW loose-leaf book — McIntosh's Transforming and Layout Tables—saves time and money for layout men, ad writers, composing room foremen and compositors. It contains estimating tables for finding the number of characters per line or per inch in any size type from five set up to and including thirty-six set, in any measure from one to one-hundred picas, or one to one-hundred square inches, answers 96,300 problems instantly for monotype keyboard operators. It shows a 75% saving on keyboard layout time per tabular heading. Answers to any problem can be found without numerical complications.

The book will be ready for distribution on May 1st. Orders taken now. Sent on approval to any responsible concern. Price, $10.00. Send coupon now.

Mc INTOSH

JAMES C. McINTOSH,
1241 Superior Avenue, Cleveland, Ohio

Please send me on 30-day approval_____copies of McIntosh's Transforming and Layout Tables.

Name_____Firm_____

City_____State_____

Thank You!

Printing Equipment Engineer,
Cleveland, Ohio.

Gentlemen:

I always enjoy reading Printing Equipment Engineer and appreciate the valuable information contained in the November Catalog Number.

Richard J. Copley, Sr.,
New Orleans, La.

Air Needed

(Continued from page 7)

Bruce Berckmans, of J. M. Huber, Inc., New York, in the March, 1935, issue of *Printing* Equipment *Engineer*, says:

> Ink does not dry—it sets by absorption. The ink must be set into the sheet. When the humidity is too great, the individual paper fibres swell, tightening the formation and making the surface rougher. The roughness might increase ink absorption but this is offset by the tighter stock formation and the oil-repellant properties of moisture. This causes smear, accumulation of ink on equipment and the use of more ink. Excessive aridity opens paper formation by contraction of individual paper fibres, permitting excessive penetration. This also occurs when paper that has been too moist dries out, leaving the surface rough.

Paper naturally reacts to moisture because in the process of manufacture it is converted from a semi-liquid form to its dry state under heat and pressure. Excessive moisture absorption causes paper to stretch. Experiments show that an increase of 30% in the humidity in the air can increase the width of a 38-in. sheet of paper one-sixth in., or about a pica. This is especially ruinous in color work where the register must be exact.

Some printing experts have suggested that the pressroom should be enclosed with glass, and equipped to shut out drafts and adverse air conditions. Engineers say: "Air condition the whole plant."

In Chicago, which is rated the first city in America in amount of commercial printing, temperature in summer may go to 105 deg. F. and in winter to 23 deg. below zero. During a day in March the weather may change from 60 deg. in the morning to below freezing by late afternoon. Through

open windows such temperature changes will have undesirable effects in the printing plant. New York, which is rated first in book and periodical printing, has similar climatic conditions.

In Chicago the annual printing output is about $400,000,000. Here the graphic arts give employment to about 75,000 in normal times, and pay wages of about $160,000,000. Yet, in this great industry, there were until recently only about twenty-five printing plants equipped with air conditioning apparatus. Noteworthy among these is the Chicago *Tribune*, which makes good use of its tremendous resources to stimulate scientific and mechanical progress. The modern *Tribune* Tower, air conditioned throughout, gave evidence of the efficiency of modern installations during the excessive dry heat of last summer.

An investment in presses and other printing equipment, running into thousands of dollars a unit, logically is worth the expenditure of some hundreds of dollars to maintain it in its most productive condition.

The various phases of work in a modern printing plant require a high degree of physical and mental efficiency. It is to the interest and advantage of the printing industry to safeguard these valuable assets of its workers.

Lubrication

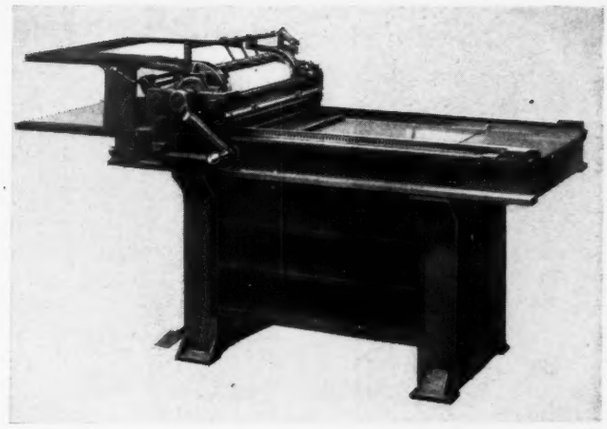
(Continued from page 16)

for the lubrication of comparatively slow speed bearings, particularly where the oil hole itself is short and accessible and therefore unlikely to become clogged. It was not, however, so satisfactory on high-speed bearings or where long tubes were necessary to convey the oil to an inaccessible position. Later an improvement was made by placing a cover over the hole which kept out most of the dirt and a still further improvement resulted when a strip of felt was put in the oil groove itself. This latter helped hold the oil and filter any dirt out of it. A still later variation of this was a closed oil cup with a felt wick leading into the oil groove. Then glass oil cups came into use, and these could be set to allow a drop of oil to fall into the bearing at regular intervals.

With increasing speeds, however, it became evident that in many instances none of the foregoing methods were completely satisfactory and so a "force-feed" lubricator was developed. This pressure lubrication was probably first used to oil the valves and cylinders of the steam engine but it was soon adopted by others, particularly the automobile manufacturers. First used in the engine crank shaft bearings, "force-feed" oiling was developed and prefected until today practically all bearings and moving parts in the automobile engine are supplied with oil under pressure. Indeed, it is doubtful that our modern high-speed, comparatively trouble-free motors would be possible at all without fool-proof automatic oiling.

During this period of development in lubrication, however, cylinder printing presses continued to be oiled in the same old way. Being comparatively slow moving, hand oiling was fairly satisfactory despite the fact that it was left very often for apprentices, helpers and even watchmen to attend to. Human carelessness and lubricating methods must, nevertheless, have occasioned tremendous losses in time, power consumption, undue wear and actual seizure in bearings on the older and slower machines.

With the recent astonishing increase in the speeds of flat-bed cylinder presses, the desirability and need for some fool-proof and efficient system of automatic oiling became apparent. Naturally the method tested and proved in the automobile was selected for development. After considerable experiment over a period of more than a year, Automatic



VANDERCOOK PROOF PRESS

24 Other Sizes and Models Priced from $45

No. 320 produces fine proofs up to full newspaper page size, quickly and economically.

It will take large forms, or platen and small automatic press chases, permitting accurate pre-makeready, alignment and register. Short runs of halftones, zincs or type can be printed at production press quality, with minimum makeready time. Register is positive and ink distribution is thorough.

Catalog and prices will be sent at your request. Write for them now.

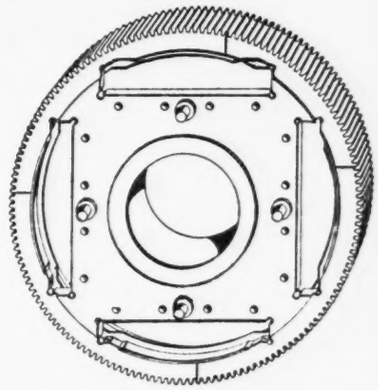
VANDERCOOK & SONS, INC.
908 NORTH KILPATRICK AVENUE, CHICAGO, ILLINOIS

SUPER-ACCURATE MOLD DISCS

Water Cooled 4 Pocket

—

Non-Water Cooled 2 Pocket



Machinists tell us that these "STAR" mold discs are more easily installed. Save time in "fitting" by ordering them from us.

Distributors for

Ace Cord-Rubber Belts, Matrix Delivery, Assembler, Distributor, Intermediate Drive, etc.

The Only Belt Warranted

LINOTYPE PARTS CORPORATION

NEW YORK
203 Lafayette Street

KANSAS CITY
314 West 10th Street

Agencies:

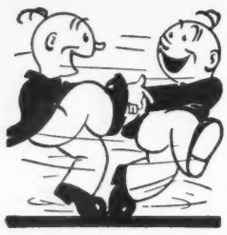
CHICAGO
318 West Randolph Street

LOS ANGELES
1520 Georgia Street

VULCAN

CYLINDER PACKINGS
INKING ROLLERS
MOLDING BLANKETS

"They're Delighted



with Vulcan Press Blankets. Sending under separate cover a copy showing two-color advertisement printed with them."

—Another Field Report on Vulcan Press Blankets.

Yes, Vulcan Blankets make good on special as well as the usual requirements. They last longer than ordinary blankets and cost less.

Vulcan Blankets are the result of modern research methods and constant laboratory supervision. They are easy to use, dependable, and economical. The Vulcan line includes cylinder packings for every purpose—felt and non-felt blankets, E. D. blankets, draw sheets, and underpackings. Investigate also Vulcan inking rollers, and, for the Stereotyping Department, buckle-proof molding blankets.

VULCAN PROOFING COMPANY
FIRST AVENUE AND FIFTY-EIGHTH STREET, BROOKLYN, N. Y.
Pacific Coast: Ralph Leber Co., Inc., 426 Polson Building, Seattle, Wash.

Accurate Planing of Blocked Plates with this Precision Machine the Hacker Block Leveller

Is certain to yield economies in makeready. Blocked plates, in the average, show the greatest errors in height. They are the greatest single cause of press makeready.

In foundry forms the need for properly levelled cuts is equally important. It means better electrotypes.

No. 3 Hacker Block Leveller (illustrated) is a very fine tool, capable of the closest work, sturdy, rapid, in size (9x15") to handle 95% of blocks used, at a moderate price. In combination with the Hacker Plate Gauge, it gives absolute control of the type-high of blocked plates, wood or metal.

HACKER MANUFACTURING CO.
320 South Honore St., Chicago 461 Eighth Ave., New York

Oiling was developed and adopted some fourteen months ago as standard equipment on two-revolution cylinder presses by the Miller Printing Machinery Company.

DESCRIPTION OF AUTOMATIC OILING EQUIPMENT

Automatic oiling as employed on Miller Simplex Presses consists of two principal parts, the pump or lubricator and the bearing outlets or drip plugs which are connected by small-diameter tubing.

The lubricator is a compact unit driven by the press and consists of an oil reservoir with easily visible oil gauge and a precision pump and timing unit. The whole mechanism runs in oil and is self-lubricating. The pump runs continuously while the press is in operation and draws the oil through a special felt filter which protects the entire system from dirt

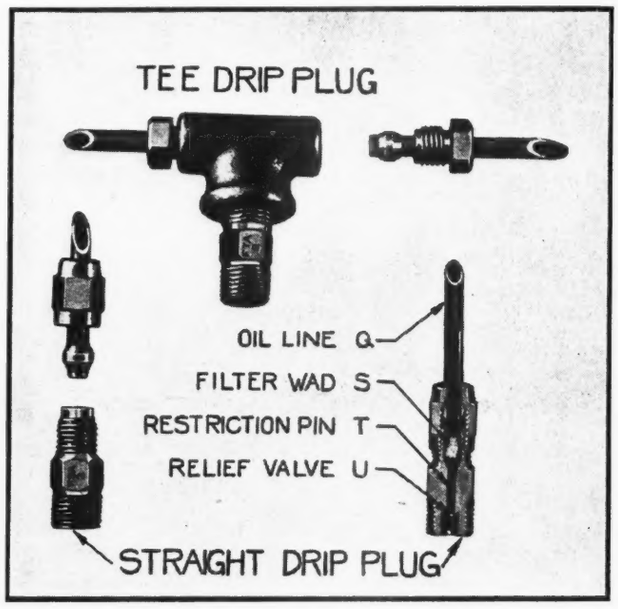


Fig. 3.—Fittings as used in connection with the Miller Simplex Printing Press Automatic Oiling System. At lower right is a cut-away cross-section to show how the filtered oil, which is pumped under pressure, reaches the bearing it is intended to lubricate.

or grit. (The filter is easily removable and should be cleaned in gasoline every year or so.) The oil is forced from the pump into a chamber whence it passes into the system through a valve controlled by the timing unit which consists of a slow-speed cam and rocker arm.

An instantaneous feed button is provided on the top of the lubricator to flood all bearings with oil before starting if the press has been shut down for more than a day or so. The reservoir contains about one quart of oil or enough for ordinary operation for two or three days. It should be filled each morning, however, to avoid possibility of oversight.

The drip plugs are adjusted in the factory to deliver just the required amount of oil to each bearing. Once set they cannot be altered. Each drip plug consists of an extremely accurate pin placed in front of an equally accurate hole. The clearance remaining determines the rate of flow through the plug.

In addition to the quantity oil gauge on the reservoir, a pressure gauge is placed on the top of the press in a prominent position to indicate the oil pressure and regularity of flow.

All main and high-speed bearings are lubricated automatically. The system starts and stops with the press and needs no attention from the operator other than the daily addition of oil. Ordinary straight mineral oil of any viscosity can be used.

Continued on next page

Technical Literature

Readers of *Printing* EQUIPMENT *Engineer* who are interested, may secure any of the Books, Catalogs or Bulletins listed below by checking the literature desired in the square opposite the title. Mark carefully only that literature which you wish to receive. Fill out the coupon and send it to us. The literature will be forwarded gratis except where noted.

☐ *Monotype Deepdene Family*—Folder showing specimens of Deepdene Family of type faces by Frederic W. Goudy.

☐ *Printers' Knife and Saw-Grinding Bulletin*—Illustrated with halftone cuts of each of several kinds of machines for grinding knives and saws used by printers.

☐ *More Business Through Numbered Work*—Illustrated folder on numbering machines for various purposes.

☐ *Improve Production*—illustrated bulletin describing low-priced router and type-high planer.

☐ *The Key to Successful Cast Plate Operations*—Illustrated folder describing direct pressure mat and lead molding press.

☐ *Core Adapters for Non-Returnable Cores*—Bulletin, illustrated, describing device and showing how adapter is used with non-returnable cores in newsprint paper rolls.

☐ *"What Is the World Coming To?"*—A 14-page booklet showing there are measurable qualities which will determine the purchase of printing papers.

☐ *Thermostat Bulletin*—Illustrates and describes thermostats for air or gas pressures from 1 to 5 lbs. per sq. in., for use in connection with furnaces, ovens and metal melting control.

Printing EQUIPMENT *Engineer,*
1370 Ontario St., Cleveland, Ohio.

Gentlemen: Please send the literature checked above without obligation.

Name of Company_____

Attention of_____

Position_____ Dept._____

Street Address_____

City_____ State_____

Lubrication

(Continued from page 36)

Automatic oiling, in our opinion, has three principal advantages:

(1) A considerable gain in production resulting from the saving of running time formerly used for hand oiling. For example, on the 25x38 two-color, about one-half hour daily was formerly consumed in hand oiling. Assuming 2000 yearly working hours, 75% productive time, hour cost $4.25, automatic oiling saves over $550.00 yearly.

(2) The removal of the human element and its replacement by an entirely mechanical operation that is as uniform as any other function of a machine, thus making "freeze-ups" almost impossible and relieving the pressman of one of his worrying tasks.

(3) The reduction of friction, thereby reducing wear, power consumption, over-heating, inaccuracy, lost running time and maintenance cost, and these in turn resulting in still greater production, decreased production cost and higher quality work.

MORLEY
BETTER
MATS

save time
when every second counts!

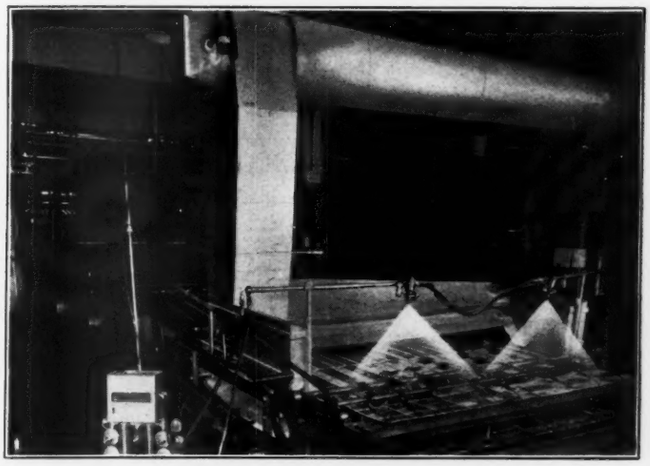
- SMOOTH FACE
- SOFT TEXTURE
- EASY MOULDING

Samples?
SURE—just write for them
. . . . make your own tests!

MORLEY BUTTON
Manufacturing Company
PORTSMOUTH, NEW HAMPSHIRE
New York Office: 46 East 11th Street

Paasche "No-Offset" Process

PROTECT your printed impressions against all possibility of smudging or ink offset . . . do away with all need for slip sheeting, racking, or thinning inks — by equipping your presses for the Paasche "No-Offset" Process. Cost records show yearly savings of over $3,000.00 per press equipped. Over a hundred concerns installed the process last year.



Shows Paasche "No-Offset" Equipment in Operation on Miehle Press. Substantial Savings and Higher Class of Work are Guaranteed

Write today for booklet describing the operation, advantages and economies of the Paasche "No-Offset" Process, available for most types of presses.

Paasche Airbrush Co.
1931 DIVERSEY PARKWAY CHICAGO

TINGUE PRESS BLANKETS
FELT Coating by Dupont

TINGUE DRAW SHEET

TINGUE CUSHION-CORK

•

TINGUE, BROWN & CO.

CHICAGO
1227 Wabash Avenue

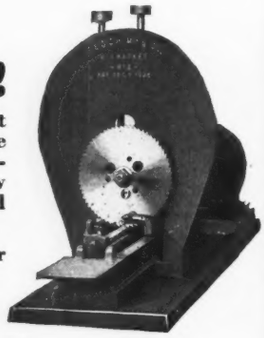
NEW YORK
120 East 25th Street

Absolute Accuracy!

The only machine built for the Publishing Trade which guides the sharpening of trimmer saw blades from a machined indexed plate.

AUTOMATIC — Either Hand or Power Driven.

"Pays for Itself"



Write for Literature

TESCH MFG. CO. 2850 South 20th St.
MILWAUKEE, WISCONSIN

This machine is the teammate of
"TESCH SAW SWAGER"

SLIDE RULE FOR PRINTERS

★ A Mechanical Instrument will enable you to find Short Cuts that will save you many valuable hours . . *Write for information*

O'SULLIVAN LINOTYPE COMPOSITION CO.
LINO-TABLER SPECIALISTS
47 West Street - - - New York, N. Y.

IMPRESSION PETE SAYS:
"Why don't you try Fitz-Livecork Press Blankets?"
Write for samples and prices.

FITZ PATRICK FELT MFG. CO.
4024 Hamilton Avenue • Cleveland, Ohio

LINOTYPE—INTERTYPE
MAGAZINE RACKS
WILLIAM REID & CO., 537 South LaSalle St., Chicago, Ill.

MR. EXECUTIVE:
When talking to manufacturer's representatives or writing in response to advertisements please mention *Printing* EQUIPMENT *Engineer.*

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FOR SALE

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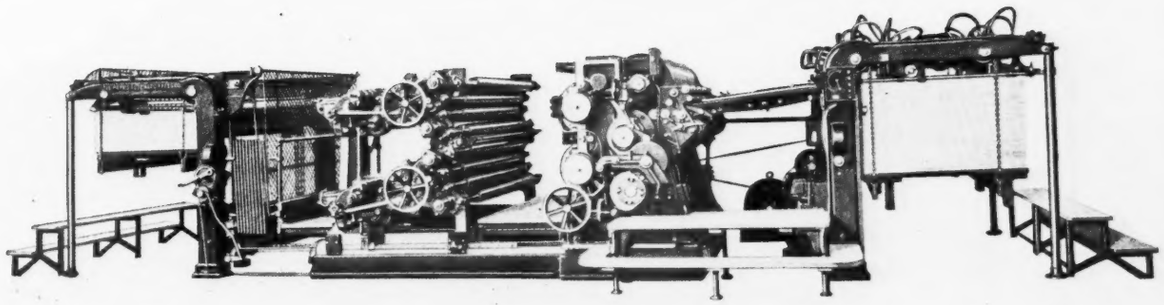


This HARRIS-CLAYBOURN TWO-COLOR ROTARY PRESS *is a real buy for some plant*

THIS 46 x 70, Harris-Claybourn Two-Color Rotary Press presents a real money saving opportunity.

Purchased about three years ago to meet certain requirements in a large Cleveland plant, the press was successfully operated for one and one-half years. Owing to a change in the character of the work it has not been operated since that first few months. It is in splendid condition and can be demonstrated to anyone interested.

Because the owners need the space occupied by this press its price has been placed at a point below its original cost where a tremendous saving can be effected. If you can use a press of this type it will pay you to write immediately for additional details, price and demonstration.

A Few Advantages

The use of the Harris Feeder with breathing type of gripper makes this the fastest all-size sheet fed rotary press.

It can handle medium short runs economically, because it uses the Claybourn Non-Stretch Precision Curved Plate. These plates are tested and corrected under actual printing conditions before they are sent to this productive press, thereby considerably reducing makeready and minimizing down time.

It has a better ink distribution than is obtainable in any type of Flat Bed Press.

As the sheet is not transferable between colors there is no loss of register from this source.

Loss of ink due to washup is considerably reduced.

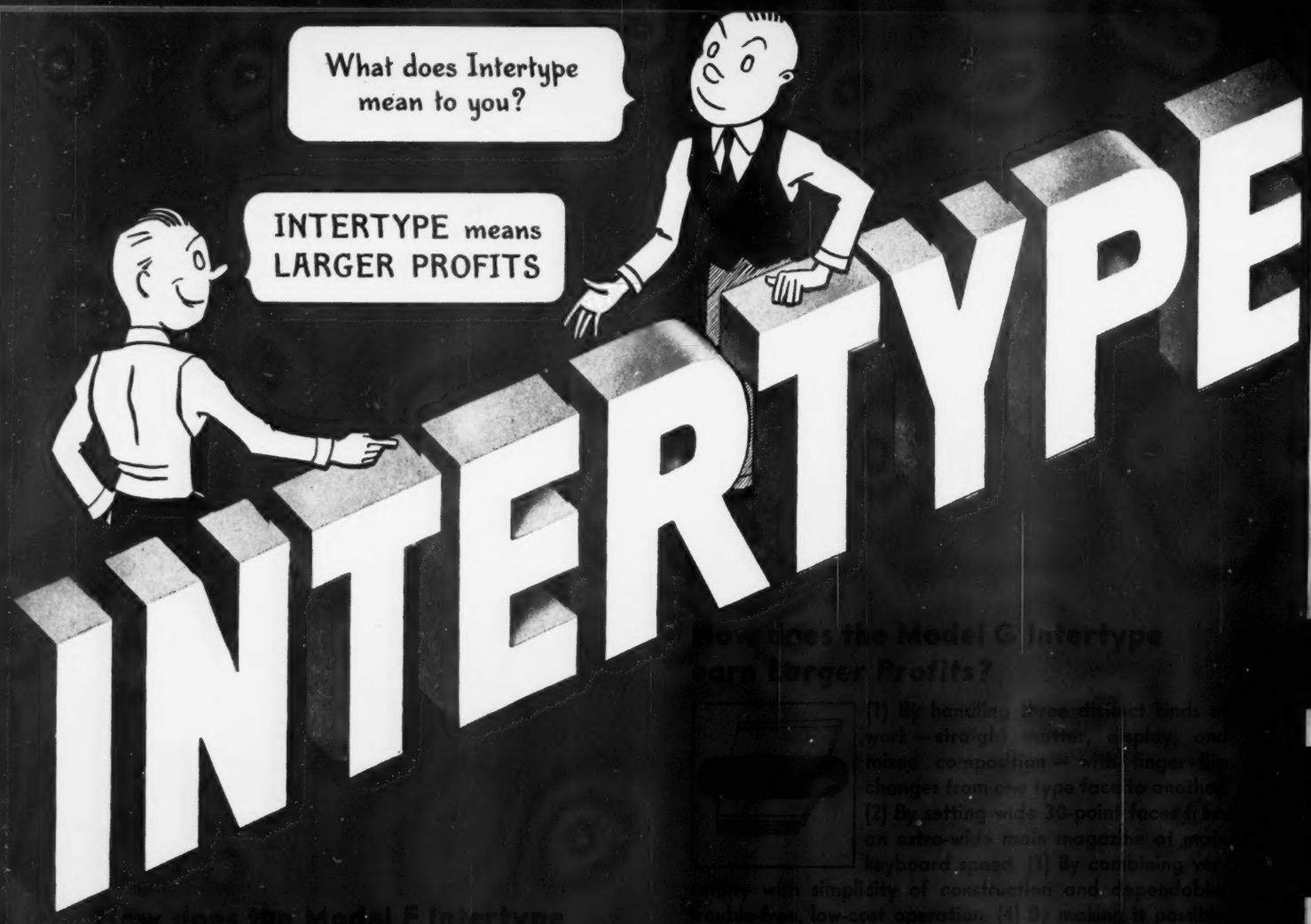
Rollers last longer due to non-reversing.

Specifications

Size Stock	25x38-inch to 46¼x70-inch
Form	46x70-inch — $\frac{3}{16}$-inch thick
Speed (normal)	Guaranteed, 3,500 per hour
Speed (close register)	Guaranteed, 3,000 per hour
Feed	Harris Pile Feeder
Delivery	Receding Pile Delivery
Power Required	20 h.p. variable speed motor
Drive Pulley	28x6¼-inch { 528 r.p.m. max. 264 r.p.m. min.
Floor Space	30 ft. 5 in. x 12 ft. 11 in.
Height	6 feet 10 inches
Base, Main Press	4 ft. 0 in. x 8 ft. 6 in.
Base, Main Press and Inker	12 ft. 1 in. x 8 ft. 6 in.
Shipping weight (Approx.)	66,000 pounds
Net Weight (Approx.)	60,000 pounds

THE CADILLAC PRESS

1240 Ontario Street **Cleveland, Ohio**



How does the Model F Intertype earn Larger Profits?

(1) By means of time-saving finger-flip changes from one type to another. (2) By setting double-pi mixed composition at the speed of regular straight matter. (3) By eliminating waiting for distributor when making font changes. (4) By setting full width 18-point faces on a main magazine at quick keyboard speed. (5) By combining these advantages with the simplicity of straight-line construction and simple, dependable, economical operation. (6) By reducing copy-cutting, which means less handling of slugs and proofs, fewer make-over costs, fewer errors.

How does the Intertype Autospacer earn Larger Profits?

(1) By [illegible] of type of any size, or spacing them out, either tight or loose, and any where on the part of the [illegible]. (2) By doing automatically, work which formerly had to be done by keyboard manipulation or by hand. (3) By elimination of hand operations on [illegible] lines, thus saving time and operating [illegible]. (4) By operating dependably, and without any complications to bother the operator or the machinist. (5) By effecting large savings of time on [illegible] and other composition containing much quadding or centering, in any size of type.

How does the Model G Intertype earn Larger Profits?

(1) By handling three distinct kinds of work — straight matter, display, and mixed composition — with [illegible] changes from one type face to another. (2) By setting wide 30-point faces [illegible] an extra-wide main magazine at [illegible] keyboard speed. (3) By combining [illegible] with simplicity of construction and dependable, trouble-free, low-cost operation. (4) By making it possible to set both display and mixed composition on a [illegible] straight-matter machine.

How does the Model H Intertype earn Larger Profits?

(1) By mass production of heads and [illegible] display lines. (2) By reducing the physical effort required to replace split [illegible] cases, thus saving the operator's time and energy for other work. (3) By [illegible] and three extra-wide magazines which will set all type sizes up to full-width 30-point bold at main keyboard speed. (4) By additional [illegible] and effort effected by Intertype's light-action [illegible], which facilitates changes of face or size.

How does the Intertype Hand Stick earn Larger Profits?

(1) By extending the range of the [illegible] type to full width 30-point bold. (2) By making it unnecessary to buy a special machine to cast big type beyond keyboard range. (3) By saving time on the preparation and handling of big display lines because bars are cast up to 30 picas wide and require no [illegible]. (4) By making it convenient to obtain [illegible] or two corrections, any size, without shifting or replacing [illegible]. (5) By making all [illegible] composition practical and economical.

INTERTYPE CORPORATION • 360 [illegible] Street, Brooklyn, N. Y.

INTERTYPE means LARGER PROFITS

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